

Study of metagenic effects of Sodium Nitrite

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STUDY OF METAGENIC EFFECTS OF SODIUM NITRITE
(71-9) #12

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STANFORD RESEARCH INSTITUTE
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Compound Report No. 12

STUDY OF MUTAGENIC EFFECTS OF SODIUM NITRITE (71-9)

Prepared for:

DHEW/PUBLIC HEALTH SERVICE
Food and Drug Administration
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INTRODUCTION

Under contract to the Food and Drug Administration, Stanford Research Institute is examining the mutagenicity of 14 selected chemical compounds (Contract No. FDA 71-267). This report describes the results of tests conducted on Sodium Nitrite (71-9).

Three methods are used to evaluate the genetic hazards of the test compounds. These are: (1) Host-Mediated Assay, (2) Cytogenetic Assay, and (3) Dominant Lethal Gene Test. Methodologies used to conduct these tests are described in detail in "Compound Report No. 1," January 1972. The same procedures were followed in obtaining the information presented in this report.

For the compound under consideration here single and repeated intubations were performed at three concentrations. These amounts were (1) a maximum tolerated dose or 5 g/kg, whichever was lower, (2) a low dose of 30 mg/kg or one near the use level, and (3) a level intermediate between the use level and the maximum tolerated dose.

SUMMARY

Host-Mediated Assay

Sodium nitrite (71-9) did not produce any measureable mutagenic response for Salmonella typhimurium or alteration in the recombination frequency for Saccharomyces cerevisiae in the host-mediated assay. A positive response was obtained for both organisms in vitro.

Cytogenetic Assay

Sodium nitrite (Compound 71-9) exhibits no adverse effect on metaphase chromosomes from rat bone marrow at any of the dose levels or time periods tested.

It causes a sharp increase in the number of aberrant cells obtained from human embryonic lung cells (WI-38) grown in tissue culture. Mitotic inhibition proportional to the dose level also occurs.

Dominant Lethal Gene Test

No consistent responses occurred to suggest that sodium nitrite (71-9) is mutagenic to the rat by this experimental procedure. The positive reference compound, TEM, a known mutagen, generally produced mutagenic responses from the first through the fifth weeks of the experiment, as expected. Mathematical treatment of the Dominant Lethal Gene data, according to the statistical program outlined by FDA, failed to show consistent significant differences which could be attributed to an effect of sodium nitrite at $P < 0.01$, $P < 0.05$, $P < 0.10$, and $P < 0.20$.

An unusual response occurred in determining LD₅₀ values of sodium nitrite. Larger rats, 400 to 500 grams, were more sensitive to the compound and had a lower LD₅₀ value than were smaller (and/or younger) rats, 100 to 150 grams; LD₅₀ value for the 400 to 500 gram rats was 134 mg/kg while the 100 to 150 gram rats had an LD₅₀ of 235 g/kg.

RESULTS AND DISCUSSION

Oral Toxicity

Initially, single and multiple dose LD₅₀ data was obtained with male Sprague Dawley derived rats weighing 230 to 255 grams each. The resultant LD₅₀ values were 171 mg/kg for single treated rats and 175 mg/kg for multiple treated rats. After evaluation of the LD₅₀ data, dosage levels of 125, 70, and 30 mg/kg were selected and experienced male Sprague Dawley derived rats weighing 400 to 500 grams each were treated and placed on test. Within 48 hours 70% of the 125 mg/kg treated rats were dead. The study was abandoned and additional LD₅₀ studies initiated.

Single dose LD₅₀ data then were obtained with groups of male Sprague Dawley derived rats weighing 110 to 140 grams and 430 and 510 grams, each using a constant volume (10 ml/kg) dosing regimen, as employed in the initial study.

These additional LD₅₀ experiments clearly showed that the acute toxicity of sodium nitrite increased with the weight (and/or age) of the rats. As a result of this new information, dosage levels of 70, 50, and 30 mg/kg were established for both single and multiple treated groups. Toxicity data for sodium nitrite is summarized in Table 1. The vehicle for this experiment was water.

Host-Mediated Assay

Table 2 presents a summary of the host-mediated assay results for sodium nitrite (71-9). Table 3 contains the data obtained on each individual mouse. This table is a computer printout of the calculations made on the data obtained for each mouse. Because of the nature of the computer, it is necessary to exceed its maximum number of significant figures to obtain a value as an exponent. For this reason, 12 significant figures are printed out. However, only three significant figures are used for calculations and reporting the results as summarized in Table 2. Table 4 summarizes the data obtained in the in vitro tests.

As can be seen from the results summarized in Table 2, no mutagenic response was observed for the two Salmonella typhimurium strains tested when mice were treated with the test compound. The mitotic recombination frequency of Saccharomyces cerevisiae was not affected. Table 4 shows that a positive mutagenic response was detected in the in vitro tests on S. typhimurium. S. cerevisiae also showed an increased mitotic recombination frequency for cells exposed in vitro.

Cytogenetic Assay

Review of Table 5 indicates that no adverse effect on rat bone marrow chromosomes at any tested dose level or time period may be attributed to sodium nitrite. There is, however, a noticeable increase in the mitotic index in the low dose animals treated for 6 hours. However, there is no trend to suggest a stimulatory effect on mitosis by the compound. Treatment with TEM for 24 rather than 6 hours was included and results in a striking increase in the number of aberrant chromosomes. The high value for the 48 hour negative control is an anomalous result.

Table 6 indicates that in vitro treatment with sodium nitrite of WI-38 cells grown in culture results in a sharp increase in the number of abnormal anaphase cells. This is primarily due to a distinct increase in the number of acentric fragments observed, indicating an increased percentage of single breaks in the chromosomes. An increase in the number of cells scored as "other" at the lowest and highest doses also contributes to the increase of aberrant cells. Cells were scored as other when the two sets of chromosomes were broken up into numerous small cultures with no particular polar orientation. A distinctly adverse effect on WI-38 cells can be attributed to this compound. In addition, severe inhibition of mitosis is displayed which varies directly with the dose level.

Dominant Lethal Gene Test

Throughout this entire experiment the biological criteria used to evaluate mutagenic effects in the rat showed no consistent responses which could be attributed to treatment. There were occasional statistical differences between control and sodium nitrite-dosed groups, but these were random occurrences without any suggestion of a time or dose-response effect.

Table 7 presents summary data of the implantations per pregnant female, Table 8 summarizes dead implants per pregnant female, Table 9 summarizes dead implants per total implants, Table 10 summarizes corpora lutea per pregnant female, and Table 11 summarizes pre-implantation loss per pregnant female.

Appendix A contains the statistical analysis procedures for dominant lethal gene tests with a description and explanation of the computer printouts.

Appendix B contains the computer printouts for the raw data and statistical analyses.

Careful review and statistical evaluation of the data do not show sodium nitrite to be a mutagen in the rat by the dominant lethal gene test.

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ACUTE ORAL TOXICITY - RAT

Table 1

Compound: Sodium Nitrite
FDA No: 71-9

<u>Dosage Preparation</u>	<u>Weight Range (grams)</u>	<u>LD₅₀ (mg/kg)</u>	<u>95% Confidence Limits (mg/kg)</u>
Constant Volume (10 ml/kg)	110-140	235	200 to 276
Constant Volume (10 ml/kg)	230-255	171	140 to 208
Constant Volume (10 ml/kg)	430-510	134	104 to 173

Table 2

HOST MEDIATED ASSAY
SUMMARY OF DATACompound No.: 71-9 (Sodium nitrite)

A. Acute

Treatment	Organism					
	Salmonella				Saccharomyces	
	G46		TA 1530		D-3	
	MF	MFt/ MFc	MF	MFt/ MFc	RF	RFT/ RFC
Maximum	2.08×10^{-8}	1.41	4.30×10^{-8}	0.61	1.30×10^{-4}	0.73
Intermediate	2.65×10^{-8}	1.80	1.72×10^{-8}	0.24	1.30×10^{-4}	0.73
Low Level	1.22×10^{-8}	0.83	3.04×10^{-8}	0.43	1.04×10^{-4}	0.58
Control (+)	1.86×10^{-6} ✓	126.53	8.29×10^{-7} ✓	11.69	1.28×10^{-3} ✓	7.15
Control (-)	1.47×10^{-8} ✓	1.00	7.09×10^{-8} ✓	1.00	1.79×10^{-4} ✓	1.00

B. Subacute

Treatment	Organism					
	Salmonella				Saccharomyces	
	G46		TA 1530		D-3	
	MF	MFt/ MFc	MF	MFt/ MFc	RF	RFT/ RFC
Maximum	3.89×10^{-9}	1.07	1.56×10^{-8}	0.83	1.66×10^{-4}	0.86
Intermediate	2.74×10^{-9}	0.76	85.57×10^{-8}	2.98	1.61×10^{-4}	0.83
Low Level	5.35×10^{-9}	1.48	2.70×10^{-8}	1.44	1.35×10^{-4}	0.70
Control (-)	3.62×10^{-9} ✓	1.00	1.87×10^{-8} ✓	1.00	1.93×10^{-4} ✓	1.00

Table 3

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATACompound No.: 71-9 (Sodium nitrite)Organism: G-46Treatment: (+) CONTROL

A. Acute

<u>Mouse No.</u>	<u>Ave. No. Mutant Colonies or Recombinants/ml</u>	<u>Ave. No. Colony Forming Units/ml</u>	<u>Mutant Recombination Frequency</u>
1	.155000000000ex 03	.250000000000ex 08	.620000000000ex-05
2	.345000000000ex 03	.32166666666ex 09	.107253886010ex-05
3	.560000000000ex 03	.545000000000ex 09	.102752293577ex-05
4	.58166666665ex 03	.11833333333ex 09	.491549295774ex-05
5	.42333333333ex 03	.48000000000ex 09	.88194444443ex-06
6	.73416666665ex 03	.11165666666ex 10	.657462686569ex-06
7	.33083333333ex 03	.67000000000ex 09	.493781094526ex-06
8	.952500000000ex 03	.58500000000ex 09	.162820512820ex-05
9	.50833333330ex 03	.87000000000ex 09	.584291187735ex-06
10	.22666666666ex 03	.20000000000ex 09	.11333333333ex-05
			.185945726282ex-05

B. Subacute

<u>Mouse No.</u>	<u>Ave. No. Mutant Colonies or Recombinants/ml</u>	<u>Ave. No. Colony Forming Units/ml</u>	<u>Mutant Recombination Frequency</u>

Table 3 (continued)

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATACompound No.: 71-9 (Sodium nitrite)Organism: G-46Treatment: (-) CONTROL

A. Acute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.100000000000ex 02	.456666666666ex 09	.218978102190ex-07
2	.750000000000ex 01	.540000000000ex 09	.138888888888ex-07
3	.583333333330ex 01	.665000000000ex 09	.877192982451ex-08
4	.900000000000ex 01	.801666666665ex 09	.112266112266ex-07
5	.125000000000ex 02	.104500000000ex 10	.119617224880ex-07
6	.833333333330ex 01	.108666666666ex 10	.766871165645ex-08
7	.283333333333ex 02	.925000000000ex 09	.306306306305ex-07
8	.666666666665ex 01	.571666666665ex 09	.116618075801ex-07
.147135140641ex-07			

B. Subacute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.500000000000ex 01	.100166666666ex 10	.499168053247ex-08
2	.500000000000ex 01	.165000000000ex 10	.303030303030ex-08
3	.166666666666ex 01	.138333333333ex 10	.120481927710ex-08
4	.916666666665ex 01	.122333333333ex 10	.749318801090ex-08
5	.100000000000ex 02	.223333333333ex 10	.447761194030ex-08
6	.166666666666ex 01	.223333333333ex 10	.746268656714ex-09
7	.166666666666ex 01	.123666666666ex 10	.134770889488ex-08
8	.833333333330ex 00	.146666666666ex 09	.5681818182ex-08
.362167481553ex-08			

Table 3 (continued)

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATACompound No.: 71-9 (Sodium nitrite)Organism: G-46Treatment: MAXIMUM

A. Acute

<u>Mouse No.</u>	<u>Ave. No. Mutant Colonies or Recombinants/ml</u>	<u>Ave. No. Colony Forming Units/ml</u>	<u>Mutant Recombination Frequency</u>
1	.666666666665ex 01	.580000000000ex 09	.114942528735ex-07
2	.175000000000ex 02	.447500000000ex 09	.391061452513ex-07
3	.500000000000ex 01	.240000000000ex 09	.208333333333ex-07
4	.83333333330ex 01	.38833333333ex 09	.214592274677ex-07
5	.166666666666ex 01	.240000000000ex 09	.6944444444lex-08
6	.166666666666ex 01	.350000000000ex 08	.476190476188ex-07
7	.58333333330ex 01	.45666666666ex 09	.127737226276ex-07
8	.58333333330ex 01	.70333333330ex 09	.829383886255ex-08
9	.666666666665ex 01	.350000000000ex 09	.190476190475ex-07
			.208412923916ex-07

B. Subacute

<u>Mouse No.</u>	<u>Ave. No. Mutant Colonies or Recombinants/ml</u>	<u>Ave. No. Colony Forming Units/ml</u>	<u>Mutant Recombination Frequency</u>
1	.83333333330ex 00	.10783333333ex 10	.772797527047ex-09
2	.416666666666ex 01	.90833333330ex 09	.458715596331ex-08
3	.416666666666ex 01	.101500000000ex 10	.410509031198ex-08
4	.58333333330ex 01	.12383333333ex 10	.471063257064ex-08
5	.250000000000ex 01	.685000000000ex 09	.364963503649ex-08
6	.33333333333ex 01	.60333333330ex 09	.552486187847ex-08
			.389169554795ex-08

Table 3 (continued)

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATACompound No.: 71-9 (Sodium nitrite)Organism: G-46Treatment: INTERMEDIATE

A. Acute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutant Recombination Frequency
1	.500000000000ex 01	.446666666666ex 09	.111940298507ex-07
2	.500000000000ex 01	.126666666666ex 09	.394736842107ex-07
3	.666666666665ex 01	.172500000000ex 09	.386473429950ex-07
4	.333333333333ex 01	.241666666666ex 09	.137931034483ex-07
5	.916666666665ex 01	.103333333333ex 09	.887C96774194ex-07
6	.200000000000ex 01	.665000000000ex 09	.300751879699ex-08
7	.250000000000ex 01	.146666666666ex 09	.170454545455ex-07
8	.666666666665ex 01	.441666666666ex 09	.150943396226ex-07
9	.857142857140ex 01	.760000000000ex 09	.112781954886ex-07
			.264714829304ex-07

B. Subacute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutant Recombination Frequency
1	.333333333333ex 01	.210000000000ex 10	.158730158730ex-08
2	.750000000000ex 01	.841666666665ex 09	.891089108912ex-08
3	.833333333330ex 00	.745000000000ex 09	.111856823265ex-08
4	.833333333330ex 00	.593333333330ex 09	.140449438202ex-08
5	.333333333333ex 01	.165000000000ex 10	.202020202020ex-08
6	.333333333333ex 01	.102833333333ex 10	.324149108590ex-08
7	.166666666666ex 01	.183333333333ex 10	.909090909088ex-09
			.274171990087ex-08

Table 3 (continued)

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATACompound No.: 71-9 (Sodium nitrite)Organism: G-46Treatment: LOW

A. Acute

<u>Mouse No.</u>	<u>Ave. No. Colonies or Recombinants/ml</u>	<u>Ave. No. Colony Forming Units/ml</u>	<u>Mutant Recombination Frequency</u>
1	.33333333333ex 01	.37166666666ex 09	.896860986547ex-08
2	.833333333330ex 01	.778333333330ex 09	.107066381156ex-07
3	.33333333333ex 01	.38833333333ex 09	.858369098712ex-08
4	.75000000000ex 01	.543333333330ex 09	.138036809816ex-07
5	.75000000000ex 01	.64000000000ex 09	.11718750000ex-07
6	.50000000000ex 01	.20500000000ex 09	.243902439024ex-07
7	.75000000000ex 01	.718333333330ex 09	.104408352668ex-07
8	.83333333330ex 01	.93500000000ex 09	.891265597144ex-08
			.121906381362ex-07

B. Subacute

<u>Mouse No.</u>	<u>Ave. No. Colonies or Recombinants/ml</u>	<u>Ave. No. Colony Forming Units/ml</u>	<u>Mutant Recombination Frequency</u>
1	.33333333333ex 01	.893333333330ex 09	.373134328359ex-08
2	.41666666666ex 01	.48250000000ex 09	.863557858375ex-08
3	.50000000000ex 01	.47833333333ex 09	.104529616724ex-07
4	.33333333333ex 01	.12600000000ex 10	.264550264550ex-08
5	.833333333330ex 00	.14733333333ex 10	.565610859727ex-09
6	.16666666666ex 01	.14500000000ex 09	.114942528735ex-07
7	.583333333330ex 01	.12600000000ex 10	.462962962960ex-08
8	.833333333330ex 00	.13766666666ex 10	.605326876513ex-09
			.534502580306ex-08

Table 3 (continued)

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATACompound No.: 71-9 (Sodium nitrite)Organism: TA-1530Treatment: (+) CONTROL

A. Acute

Mouse No.	Ave. No. Mutant	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
	Colonies or Recombinants/ml		
1	.10833333333ex 03	.25000000000ex 09	.43333333332ex-06
2	.156666666666ex 03	.21833333333ex 09	.717557251906ex-06
3	.124166666666ex 03	.25333333333ex 09	.490131578945ex-06
4	.21083333333ex 03	.29833333333ex 09	.706703910614ex-06
5	.279166666666ex 03	.18166666666ex 09	.153669724770ex-05
6	.224166666666ex 03	.30166666666ex 09	.743093922651ex-06
7	.28333333333ex 03	.335000000000ex 09	.845771144277ex-06
8	.296666666666ex 03	.256666666666ex 09	.115584415584ex-05
			.828641568155ex-06

B. Subacute

Mouse No.	Ave. No. Mutant	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
	Colonies or Recombinants/ml		

Table 3 (continued)

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATACompound No.: 71-9 (Sodium nitrite)Organism: TA-1530Treatment: (-) CONTROL

A. Acute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.175000000000ex 02	.330000000000ex 09	.530303030303ex-07
2	.225000000000ex 02	.378333333333ex 09	.594713656388ex-07
3	.450000000000ex 02	.356666666666ex 09	.126168224299ex-06
4	.425000000000ex 02	.671666666665ex 09	.632754342433ex-07
5	.250000000000ex 02	.475000000000ex 09	.526315789473ex-07
6	.516666666665ex 02	.485000000000ex 09	.106529209621ex-06
7	.116666666666ex 02	.330000000000ex 09	.353535353533ex-07
			.709228073045ex-07

B. Subacute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.100000000000ex 02	.551666666665ex 09	.181268882175ex-07
2	.555555555550ex 01	.523333333330ex 09	.106157112526ex-07
3	.100000000000ex 02	.431666666666ex 09	.231660231660ex-07
4	.500000000000ex 01	.206666666666ex 09	.241935483871ex-07
5	.666666666665ex 01	.298333333333ex 09	.223463687150ex-07
6	.750000000000ex 01	.478333333333ex 09	.156794425087ex-07
7	.666666666665ex 01	.686666666665ex 09	.970873786407ex-08
8	.833333333330ex 01	.315000000000ex 09	.264550264549ex-07
			.187864683205ex-07

Table 3 (continued)

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATACompound No.: 71-9 (Sodium nitrite)Organism: TA-1530Treatment: MAXIMUM

A. Acute

Mouse No.	Ave. No. Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.141666666666ex 02	.203333333333ex 09	.696721311473ex-07
2	.108333333333ex 02	.816666666665ex 08	.132653061224ex-06
3	.108333333333ex 02	.260000000000ex 09	.416666666665ex-07
4	.250000000000ex 01	.237500000000ex 09	.105263157894ex-07
5	.416666666666ex 01	.257500000000ex 09	.161812297734ex-07
6	.333333333333ex 01	.410000000000ex 09	.813008130080ex-03
7	.583333333330ex 01	.245000000000ex 09	.238095238093ex-07
8	.833333333330ex 01	.201666666666ex 09	.413223140495ex-07
			.429951654696ex-07

B. Subacute

Mouse No.	Ave. No. Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.125000000000ex 02	.755000000000ex 09	.165562913907ex-07
2	.500000000000ex 01	.781666666665ex 09	.639658848615ex-08
3	.141666666666ex 02	.690000000000ex 09	.205314009660ex-07
4	.916666666665ex 01	.117666666666ex 10	.779036827198ex-08
5	.750000000000ex 01	.385000000000ex 09	.194805194805ex-07
6	.250000000000ex 01	.200000000000ex 09	.125000000000ex-07
7	.116666666666ex 02	.450000000000ex 09	.259259259257ex-07
			.155972992171ex-07

Table 3 (continued)

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATACompound No.: 71-9 (Sodium nitrite)Organism: D-3Treatment: INTERMEDIATE

A. Acute

Mouse No.	Ave. No. Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.250000000000ex 04	.366666666666ex 08	.681818181819ex-04
2	.250000000000ex 04	.137500000000ex 08	.181818181818ex-03
3	.500000000000ex 04	.211666666666ex 08	.236220472441ex-03
4	.250000000000ex 04	.141666666666ex 08	.176470588236ex-03
5	.500000000000ex 03	.255000000000ex 08	.196078431372ex-04
6	.300000000000ex 04	.240000000000ex 08	.125000000000ex-03
7	.150000000000ex 04	.902500000000ex 07	.166204986149ex-03
8	.350000000000ex 04	.270000000000ex 08	.129629629629ex-03
9	.150000000000ex 04	.220000000000ex 08	.681818181818ex-04
			.130146148641ex-03

B. Subacute

Mouse No.	Ave. No. Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.450000000000ex 04	.348333333333ex 08	.129186602870ex-03
2	.333333333333ex 04	.398333333333ex 08	.836820083681ex-04
3	.500000000000ex 04	.245000000000ex 08	.204081632653ex-03
4	.400000000000ex 04	.371666666666ex 08	.107623318385ex-03
5	.900000000000ex 04	.390000000000ex 08	.230769230769ex-03
6	.450000000000ex 04	.225000000000ex 08	.200000000000ex-03
7	.600000000000ex 04	.300000000000ex 08	.200000000000ex-03
8	.100000000000ex 04	.557500000000ex 07	.179372197309ex-03
9	.450000000000ex 04	.390000000000ex 08	.115384615384ex-03
10	.400000000000ex 04	.244750000000ex 08	.163432073544ex-03

161353167926ex-03

Table 3 (continued)

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATACompound No.: 71-9 (Sodium nitrite)Organism: TA-1530Treatment: LOW

A. Acute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.41666666666ex 01	.27166666666ex 09	.153374233128ex-07
2	.50000000000ex 01	.21166666666ex 09	.236220472441ex-07
3	.11666666666ex 02	.17833333333ex 09	.654205607474ex-07
4	.75000000000ex 01	.15166666666ex 09	.494505494507ex-07
5	.75000000000ex 01	.51833333330ex 09	.144694533762ex-07
6	.58333333330ex 01	.21833333333ex 09	.267175572517ex-07
7	.58333333330ex 01	.30166666666ex 09	.193370165745ex-07
8	.16666666666ex 02	.57666666665ex 09	.289017341040ex-07
			.304070427573ex-07

B. Subacute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.58333333330ex 01	.22333333333ex 10	.261194029849ex-08
2	.41666666666ex 01	.25666666666ex 09	.162337662337ex-07
3	.33333333333ex 01	.26333333333ex 09	.126582278481ex-07
4	.75000000000ex 01	.21500000000ex 09	.348837209302ex-07
5	.50000000000ex 01	.76666666665ex 08	.652173913044ex-07
6	.10833333333ex 02	.55000000000ex 09	.196969696969ex-07
7	.41666666666ex 01	.11166666666ex 09	.373134328359ex-07
			.269450641635ex-07

Table 3 (continued)

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATACompound No.: 71-9 (Sodium nitrite)Organism: TA-1530Treatment: LOW

A. Acute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.41666666666ex 01	.27166666666ex 09	.153374233128ex-07
2	.50000000000ex 01	.21166666666ex 09	.236220472441ex-07
3	.11666666666ex 02	.17833333333ex 09	.654205607474ex-07
4	.75000000000ex 01	.15166666666ex 09	.494505494507ex-07
5	.75000000000ex 01	.51833333330ex 09	.144694533762ex-07
6	.58333333330ex 01	.21833333333ex 09	.267175572517ex-07
7	.58333333330ex 01	.30166666666ex 09	.193370165745ex-07
8	.16666666666ex 02	.57666666665ex 09	.289017341040ex-07
			.304070427573ex-07

B. Subacute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.58333333330ex 01	.22333333333ex 10	.261194029849ex-08
2	.41666666666ex 01	.25666666666ex 09	.162337662337ex-07
3	.33333333333ex 01	.26333333333ex 09	.126582278481ex-07
4	.75000000000ex 01	.21500000000ex 09	.348837209302ex-07
5	.50000000000ex 01	.76666666665ex 08	.652173913044ex-07
6	.10833333333ex 02	.55000000000ex 09	.196969696969ex-07
7	.41666666666ex 01	.11166666666ex 09	.373134328359ex-07
			.269450641635ex-07

Table 3 (continued)

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATACompound No.: 71-9 (Sodium nitrite)Organism: D-3Treatment: (+) CONTROL

A. Acute

Mouse No.	Colonies or Recombinants/ml	Ave. No. Mutant	Mutation or Recombination Frequency
		Ave. No. Colony Forming Units/ml	
1	.195000000000ex 05	.143333333333ex 08	.136046511628ex-02
2	.170000000000ex 05	.170000000000ex 08	.100000000000ex-02
3	.122222222222ex 05	.155000000000ex 08	.788530465948ex-03
4	.135000000000ex 05	.161666666666ex 08	.835051546395ex-03
5	.180000000000ex 05	.174250000000ex 08	.103299856527ex-02
6	.275000000000ex 05	.165000000000ex 08	.166666666666ex-02
7	.320000000000ex 05	.171666666666ex 08	.186407766991ex-02
8	.220000000000ex 05	.188333333333ex 08	.116814159292ex-02
9	.210000000000ex 05	.186666666666ex 08	.112500000000ex-02
10	.166666666666ex 05	.855000000000ex 07	.194931773878ex-02
			.127902493620ex-02

B. Subacute

Mouse No.	Colonies or Recombinants/ml	Ave. No. Mutant	Mutation or Recombination Frequency
		Ave. No. Colony Forming Units/ml	

Table 3 (continued)

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATA

Compound No.: 71-9 (Sodium nitrite)

Organism: D-3

Treatment: (-) CONTROL

A. Acute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.250000000000ex 04	.982500000000ex 07	.254452926208ex-03
2	.400000000000ex 04	.211666666666ex 08	.188976377953ex-03
3	.200000000000ex 04	.143333333333ex 08	.139534883721ex-03
4	.100000000000ex 04	.173333333333ex 08	.576923076924ex-04
5	.300000000000ex 04	.905000000000ex 07	.331491712707ex-03
6	.350000000000ex 04	.300000000000ex 08	.116666666666ex-03
7	.300000000000ex 04	.295000000000ex 08	.101694915254ex-03
8	.500000000000ex 03	.210000000000ex 07	.238095238095ex-03
			.178575628535ex-03

B. Subacute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.200000000000ex 04	.230000000000ex 08	.869565217391ex-04
2	.400000000000ex 04	.185000000000ex 08	.216216216216ex-03
3	.300000000000ex 04	.381666666666ex 08	.786026200874ex-04
4	.650000000000ex 04	.595000000000ex 08	.109243697478ex-03
5	.700000000000ex 04	.315000000000ex 08	.222222222222ex-03
6	.300000000000ex 04	.507500000000ex 07	.591133004926ex-03
7	.250000000000ex 04	.346666666666ex 08	.721153846155ex-04
8	.750000000000ex 04	.293333333333ex 08	.255681818182ex-03
9	.500000000000ex 04	.466666666666ex 08	.107142857143ex-03
10	.750000000000ex 04	.385000000000ex 08	.194805194805ex-03
			.193411953739ex-03

Table 3 (continued)

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATACompound No.: 71-9 (Sodium nitrite)Organism: D-3Treatment: MAXIMUM

A. Acute

Mouse No.	Ave. No. Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.30000000000ex 04	.24675000000ex 08	.121580547112ex-03
2	.50000000000ex 04	.15550000000ex 08	.321543408360ex-03
3	.30000000000ex 04	.16500000000ex 08	.181818181818ex-03
4	.10000000000ex 04	.33500000000ex 08	.298507462686ex-04
5	.15000000000ex 04	.25500000000ex 08	.588235294117ex-04
6	.45000000000ex 04	.47750000000ex 08	.942408376963ex-04
7	.40000000000ex 04	.38000000000ex 08	.105263157894ex-03
			.130445772651ex-03

B. Subacute

Mouse No.	Ave. No. Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.50000000000ex 04	.26333333333ex 08	.189873417721ex-03
2	.40000000000ex 04	.38333333333ex 08	.104347826087ex-03
3	.40000000000ex 04	.26333333333ex 08	.151898734177ex-03
4	.30000000000ex 04	.15500000000ex 08	.193548387096ex-03
5	.95000000000ex 04	.30500000000ex 08	.311475409836ex-03
6	.45000000000ex 04	.43333333333ex 08	.103846153846ex-03
7	.55000000000ex 04	.39666666666ex 08	.138655462185ex-03
8	.10000000000ex 05	.44000000000ex 08	.227272727272ex-03
9	.25000000000ex 04	.22666666666ex 08	.110294117647ex-03
10	.30000000000ex 04	.22666666666ex 08	.132352941176ex-03
			.166356517702ex-03

Table 3 (continued)

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATACompound No.: 71-9 (Sodium nitrite)Organism: TA-1530Treatment: INTERMEDIATE

A. Acute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.50000000000ex 01	.18000000000ex 09	.27777777777ex-07
2	.16666666666ex 01	.18000000000ex 09	.925925925922ex-08
3	.41666666666ex 01	.18000000000ex 09	.231481481481ex-07
4	.33333333333ex 01	.18000000000ex 09	.185185185185ex-07
5	.50000000000ex 01	.19000000000ex 09	.263157894736ex-07
6	.25000000000ex 01	.18666666666ex 09	.133928571429ex-07
7	.66666666665ex 01	.55666666666ex 09	.119760479041ex-07
8	.41666666666ex 01	.59500000000ex 09	.700280112043ex-08
.171738999178ex-07			

B. Subacute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.14166666666ex 02	.31833333333ex 09	.445026178008ex-07
2	.91666666665ex 01	.61500000000ex 09	.149051490514ex-07
3	.41666666666ex 01	.73333333330ex 08	.568181818183ex-07
4	.41666666666ex 01	.24166666666ex 09	.172413793103ex-07
5	.75000000000ex 01	.70166666665ex 09	.106888361045ex-07
6	.50000000000ex 01	.21666666666ex 08	.230769230769ex-06
7	.75000000000ex 01	.19333333333ex 09	.387931034483ex-07
8	.66666666665ex 01	.21166666666ex 09	.314960629921ex-07
.556518201616ex-07			

Table 3 (concluded)

HOST MEDIATED ASSAY
INDIVIDUAL MOUSE DATACompound No.: 71-9 (Sodium nitrite)Organism: D-3Treatment: LOW

A. Acute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.150000000000ex 04	.282500000000ex 08	.530973451327ex-04
2	.150000000000ex 04	.842500000000ex 07	.178041543026ex-03
3	.100000000000ex 04	.153250000000ex 08	.652528548123ex-04
4	.500000000000ex 03	.246666666666ex 08	.202702702703ex-04
5	.300000000000ex 04	.200000000000ex 08	.150000000000ex-03
6	.500000000000ex 04	.181666666666ex 08	.275229357799ex-03
7	.150000000000ex 04	.163333333333ex 08	.918367346940ex-04
.104216013216ex-03			

B. Subacute

Mouse No.	Ave. No. Mutant Colonies or Recombinants/ml	Ave. No. Colony Forming Units/ml	Mutation or Recombination Frequency
1	.10500000G000ex 05	.365000000000ex 08	.287671232876ex-03
2	.850000000000ex 04	.278333333333ex 08	.305389221557ex-03
3	.200000000000ex 04	.396666666666ex 08	.504201680673ex-04
4	.150000000000ex 04	.190000000000ex 08	.789473684210ex-04
5	.300000000000ex 04	.223333333333ex 08	.134328358209ex-03
6	.150000000000ex 04	.161666666666ex 08	.927835051550ex-04
7	.400000000000ex 04	.255000000000ex 08	.156862745098ex-03
8	.200000000000ex 04	.390000000000ex 08	.512820512820ex-04
9	.300000000000ex 04	.266666666666ex 08	.112500000000ex-03
10	.150000000000ex 04	.180000000000ex 08	.833333333333ex-04
.135351798399ex-03			

Table 4

HOST-MEDIATED ASSAY
IN VITRO MUTAGENICITY OF COMPOUND 71-9 (Sodium nitrite)

Salmonella typhimurium G-46

<u>5% w/v 71-9</u>	<u>EMS</u>
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positive	positive
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Salmonella typhimurium TA-1530

<u>5% w/v 71-9</u>	<u>EMS</u>
--------------------	------------

positive	positive
----------	----------

Saccharomyces cerevisiae D-3

<u>Compound</u>	<u>Concentration</u>	<u>Survival (%)</u>	<u>Recombinants/10 Survivors</u>	<u>RfI/RFc</u>
71-9	5% w/v	60	682.24	174.93
Control (-) for 71-9	--	100	3.90 ✓	1.00
EMS	0.1% w/v	86	298.79	74.50
Control (-) for EMS	--	100	3.89 ✓	1.00

Table 5

CYTOGENETIC ASSAY
METAPHASE SUMMARY SHEET BY TIME OF SACRIFICE
Sodium Nitrite (71-9)

Dosage	Time *	Mitotic Index (%)	No. of Animals	No. of Cells	Cells with Breaks (%)	Cells with Rearrange-ments (%)	Cells with More than one Type of Aber. (%)	Cells with one Type of Aber. (%)
TEM (0.5 mg/kg)	6	0.60	5	250	4.4	0	0	4.4
TEM (0.4 mg/kg)	24	--	2	99	38.4	9.1	8.1	39.4
Negative Control	6	1.60	3	150	1.3	0	0	1.3
30 mg/kg	6	3.30	5	250	0.4	0	0	0.4
50 mg/kg	6	1.75	5	250	1.6	0	0	1.6
70 mg/kg	6	1.40	5	250	0	0	0	0
Negative Control	24	1.25	3	136	0.7	0	0	0.7
30 mg/kg	24	1.00	5	250	1.6	0	0	1.6
50 mg/kg	24	1.50	5	250	0.4	0	0	0.4
70 mg/kg	24	0.85	5	250	1.6	0	0	1.6
Negative Control	48	0.80	3	141	5.0	0	0	5.0
30 mg/kg	48	1.47	5	250	2.0	0	0	2.0
50 mg/kg	48	1.35	5	250	1.6	0	0	1.6
70 mg/kg	48	2.50	5	250	2.0	0	0	2.0
Negative Control	SA **	1.30	3	150	0	0	0	0
30 mg/kg	SA	1.45	5	250	1.2	0	0	1.2
50 mg/kg	SA	1.90	5	250	0.8	0	0	0.8
70 mg/kg	SA	1.95	5	250	1.6	0	0	1.6

* Time of sacrifice after treatment (hours).

** SA = Subacute.

Table 6

CYTOGENETIC ASSAY
ANAPHASE SUMMARY SHEET
Sodium Nitrite (71-9)

<u>Dosage</u>	<u>Time*</u>	<u>No. of Cells</u>	<u>Cells with Acentric Fragments (%)</u>	<u>Cells with Bridges (%)</u>	<u>Multipolar Cells (%)</u>	<u>Other (Abnormal) (%)</u>	<u>Cells with More than One Type Aber. (%)</u>	<u>Cells with Aber. (%)</u>
Negative Control	24	263	6.1	2.3	0	2.3	1.9	8.7
10 µg/ml	24	145	14.5	0.7	0	8.3	4.8	18.6
100 µg/ml	24	61	11.5	4.9	0	0	1.6	14.8
1000 µg/ml	24	16	18.8	0	0	6.3	6.3	18.8
TEM (0.05 µg/ml)	24	121	19.8	5.0	0	5.8	2.5	28.1

* Time of harvest after treatment (hours).

DOMINANT LETHAL GENE-RAT

Table 7
AVERAGE IMPLANTATIONS PER PREGNANT FEMALE

Compound: Sodium Nitrite
FDA No: 71-9

Week of Study	Control (10 ml/kg)	TEM (0.2 mg/kg)	71-9 (30 mg/kg)	71-9 (50 mg/kg)	71-9 (70 mg/kg)
<u>Acute-Single Dose</u>					
1	181/15=12.1	241/20=12.1	208/19=10.9	181/17=10.6	210/16=13.1
2	226/20=11.3	136/20= 6.8**	253/20=12.7	228/20=11.4	230/18=12.8
3	245/20=12.3	167/20= 8.4**	229/20=11.5	228/19=12.0	236/20=11.8
4	258/20=12.9	131/20= 6.6**	220/19=11.6	210/16=13.1	205/19=10.8*
5	223/19=11.7	187/19= 9.8*	199/17=11.7	232/20=11.6	169/16=10.6
6	237/20=11.9	229/20=11.5	201/19=10.6	192/17=11.3	218/17=12.8
7	225/20=11.3	250/20=12.5	219/20=11.0	233/20=11.7	215/19=11.3
8	240/20=12.0	230/19=12.1	207/20=10.4	194/20= 9.7*	249/20=12.5
<u>Subacute-Multiple Dose</u>					
1		247/20=12.4	206/18=11.4	226/19=11.9	
2		211/19=11.1	250/20=12.5	243/20=12.2	
3		210/19=11.1	217/18=12.1	254/20=12.7	
4		184/17=10.8	157/14=11.2*	198/19=10.4**	
5		206/20=10.3	188/16=11.8	248/20=12.4	
6		244/20=12.2	195/16=12.2	217/19=11.4	
7		210/20=10.5	225/20=11.3	227/20=11.4	

* Significant at $P < 0.05$

** Significant at $P < 0.01$

DOMINANT LETHAL GENE-RAT

Table 8

AVERAGE DEAD IMPLANTS PER PREGNANT FEMALE

Compound: Sodium Nitrite
FDA No: 71-9

Week of Study	Control (10 ml/kg)	TEM (0.2 mg/kg)	71-9 (30 mg/kg)	71-9 (50 mg/kg)	71-9 (70 mg/kg)
<u>Acute-Single Dose</u>					
1	9/15=0.60	95/20=4.75**	13/19=0.68	16/17=0.94	12/16=0.75
2	15/20=0.75	106/20=5.30**	21/20=1.05	16/20=0.80	15/18=0.83
3	19/20=0.95	147/20=7.35**	24/20=1.20	18/19=0.95	27/20=1.35
4	21/20=1.05	108/20=5.40**	24/19=1.26	10/16=0.63	12/19=0.63
5	9/19=0.47	41/19=2.16**	10/17=0.59	10/20=0.50	5/16=0.31
6	13/20=0.65	12/20=0.60	16/19=0.84	11/17=0.65	3/17=0.18
7	25/20=1.25	11/20=0.55	16/20=0.80	8/20=0.40*D	23/19=1.21
8	12/20=0.60	14/19=0.74	13/20=0.65	23/20=1.15	22/20=1.10
<u>Subacute-Multiple Dose</u>					
1		9/20=0.45	10/18=0.56	16/19=0.84	
2		11/19=0.58	28/20=1.40	30/20=1.50	
3		3/19=0.16**D	13/18=0.72	16/20=0.80	
4		9/17=0.53	4/14=0.29	6/19=0.32	
5		7/20=0.35	13/16=0.81	8/20=0.40	
6		18/20=0.90	13/16=0.81	14/19=0.74	
7		17/20=0.85	16/20=0.80	22/20=1.10	

* Significant at $P < 0.05$

** Significant at $P < 0.01$

D Decreased below control

DOMINANT LETHAL GENE-RAT

Table 9

DEAD IMPLANTS/TOTAL IMPLANTS

Week of Study	Control (10 ml/kg)	TEM (0.2 mg/kg)	71-9 (30 mg/kg)	71-9 (50 mg/kg)	Compound: Sodium Nitrite	
					FDA No:	71-9 (70 mg/kg)
<u>Acute-Single Dose</u>						
1	9/181=0.05	95/241=0.39**	13/208=0.06	16/181=0.09	12/210=0.06	
2	15/226=0.07	106/136=0.78**	21/253=0.08	16/228=0.07	15/230=0.07	
3	19/225=0.08	147/167=0.88**	24/229=0.10	18/228=0.08	27/236=0.11	
4	21/258=0.08	108/131=0.82**	24/220=0.11	10/210=0.05	12/205=0.06	
5	9/223=0.04	41/187=0.22**	10/199=0.05	10/232=0.04	5/169=0.03	
6	13/237=0.05	12/229=0.05	16/201=0.08	11/192=0.06	3/218=0.01	
7	25/225=0.11	11/250=0.04	16/219=0.07	8/233=0.03*D	23/215=0.11	
8	12/240=0.05	14/230=0.06	13/207=0.06	23/194=0.12	22/249=0.09	
<u>Subacute-Multiple Dose</u>						
1		9/247=0.04	10/206=0.05	16/226=0.07		
2		11/211=0.05	28/250=0.11	30/243=0.12		
3		3/210=0.01	13/217=0.06	16/254=0.06		
4		9/184=0.05	4/157=0.03	6/198=0.03		
5		7/206=0.03	13/188=0.07	8/248=0.03		
6		18/244=0.07	13/195=0.07	14/217=0.06		
7		17/210=0.08	16/225=0.07	22/227=0.10		

* Significant at P < 0.05

** Significant at P < 0.01

D Decrease below control

DOMINANT LETHAL GENE-RAT

Table 10

AVERAGE CORPORA LUTEA PER PREGNANT FEMALE

Compound: Sodium Nitrite
 FDA No: 71-9

Week of Study	Control (10 ml/kg)	TEM (0.2 mg/kg)	71-9 (30 mg/kg)	71-9 (50 mg/kg)	71-9 (70 mg/kg)
<u>Acute-Single Dose</u>					
1	208/15=13.9	270/20=13.5	254/19=13.4	214/17=12.6**	215/16=13.4
2	262/20=13.1	238/20=11.9*	283/20=14.2	250/20=12.5	242/18=13.4
3	272/20=13.6	260/20=13.0	253/20=12.7*	249/19=13.1	261/20=13.1
4	279/20=14.0	268/20=13.4	244/19=12.8*	227/16=14.2	245/19=12.9*
5	248/19=13.1	229/19=12.1	220/17=12.9	247/20=12.4	204/16=12.8
6	258/20=12.9	245/20=12.3	249/19=13.1	221/17=13.0	243/17=14.3*I
7	258/20=12.9	269/20=13.5	253/20=12.7	268/20=13.4	237/19=12.5
8	259/20=13.0	262/19=13.8	238/20=11.9	241/20=12.1	260/20=13.0
<u>Subacute-Multiple Dose</u>					
1		269/20=13.5	234/18=13.0	250/19=13.2	
2		253/19=13.3	264/20=13.2	269/20=13.5	
3		248/19=13.1	241/18=13.4	274/20=13.7	
4		225/17=13.2	163/14=11.6*	221/19=11.6*	
5		263/20=13.2	200/16=12.5	269/20=13.5	
6		278/20=13.9	226/16=14.1*I	243/19=12.8	
7		234/20=11.7	255/20=12.8	270/20=13.5	

* Significant at $P < 0.05$ ** Significant at $P < 0.01$

I Increased above control

DOMINANT LETHAL GENE-RAT

Table 11

AVERAGE PREIMPLANTATION LOSS PER PREGNANT FEMALE

Week of Study	Control (10 ml/kg)	TEM (0.2 mg/kg)	Compound: Sodium Nitrite		
			71-9 (30 mg/kg)	71-9 (50 mg/kg)	71-9 (70 mg/kg)
<u>Acute-Single Dose</u>					
1	27/15=1.80	29/20=1.45	46/19=2.42	33/17=1.94	5/16=0.31
2	36/20=1.80	102/20=5.10**	30/20=1.50	22/20=1.10	12/18=0.67
3	27/20=1.35	93/20=4.65**	24/20=1.20	21/19=1.11	25/20=1.25
4	21/20=1.05	137/20=6.85**	24/19=1.26	17/16=1.06	40/19=2.11
5	25/19=1.32	42/19=2.21	21/17=1.24	15/20=0.75	35/16=2.19
6	21/20=1.05	16/20=0.80	48/19=2.53	29/17=1.71	25/17=1.47
7	33/20=1.65	19/20=0.95	34/20=1.70	35/20=1.75	22/19=1.16
8	19/20=0.95	32/19=1.68	31/20=1.55	47/20=2.35*	11/20=0.55
<u>Subacute-Multiple Dose</u>					
1			22/20=1.10	28/18=1.56	24/19=1.26
2			42/19=2.21	14/20=0.70	26/20=1.30
3			38/19=2.00	24/18=1.33	20/20=1.00
4			41/17=2.41	6/14=0.43	23/19=1.21
5			57/20=2.85	12/16=0.75	21/20=1.05
6			34/20=1.70	31/16=1.94	26/19=1.37
7			24/20=1.20	30/20=1.50	43/20=2.15

* Significant at $P < 0.05$

** Significant at $P < 0.01$

Statistical Analysis Procedures for Dominant Lethal Gene Tests With
A Description and Explanation of the Computer Printouts

The first stage of the analysis of the dominant lethal tests of the mutagenic studies on chemicals is the preparation of punched cards from work sheets. Each sheet contains autopsy data for the female rats that were mated, two per male, to 10 males of the same dosage group in one particular week. There are 9 dosage groups for some of the chemical additives studied, and 8 groups for the others. The 9 groups consist of 5 1-dose groups and 4 5-dose (multiple treatment) groups. The 1-dose groups are for the vehicle control, 3 additive dosage levels, and a positive control (TEM). Each rat in these groups is mated weekly for 8 weeks. The 5-dose groups are for the vehicle control and the 3 additive dosage levels. The rats in these groups are mated weekly for 7 weeks. (There is a deck of 1360 cards for each compound.)

The second stage is the execution of a computer program, KLUTE, which performs the following operations (where each statistical calculation is done once for each week's data):

1. The data cards are read and stored in central memory while a check is made to verify that the number of corpora lutea is greater than or equal to the number of implants. If any data fail this check, the run is aborted and the data are returned for review. The entire set of input data is printed out.
2. The fertility index (the number of pregnant females divided by the number of mated females) is calculated.
3. The chi-square test is done to compare each dosage level to the control on fertility. Let:

N_i = no. of mated females at dose level i,

n_i = no. of pregnant females at dose level i.

Then the chi-square 2 tables are of the form:

$$\begin{bmatrix} n_o & n_i \\ N_o - n_o & N_i - n_i \end{bmatrix}$$

and chi-squared (with 1 degree of freedom) is:

$$X_i^2 = \frac{(N_o + N_i)(|n_o(N_i - n_i) - n_i(N_o - n_o)| - (N_o + N_i)/2)^2}{(n_o + n_i)(N_o - n_o + N_i - n_i)(N_o)(N_i)} \quad (\text{corrected for continuity})$$

where the subscript o represents the control group.*

For each dosage group (including the control group and TEM), the following is printed out: the number of pregnant females (N PRG), the number of mated females (N MTD), the fertility index and X^2 .

4. Armitage's test for a linear trend in proportions is applied to the fertility index. The formula for this calculation is found on pages 246-248 of "Statistical Calculations" by Snedecor and Cochran, 6th Edition, Iowa State University Press, 1967. Using the notation of (3) above, we have a 2×3 contingency table of the form:

	<u>dose 1</u>	<u>dose 2</u>	<u>dose 3</u>	<u>row totals</u>
	n_1	n_2	n_3	t
	$N_1 - n_1$	$N_2 - n_2$	$N_3 - n_3$	T-t
Column Totals	N_1	N_2	N_3	T

Armitage's "chi-square" is given as $X_{(C-1)}^2 - X_1^2$, where C=3 and

$$X_1^2 = \frac{T(T\sum nx - t\sum Nx)^2}{t(T-t)(T\sum Nx^2 - (\sum Nx)^2)}, \quad X_{(C-1)}^2 = \frac{T^2(\sum \frac{n^2}{N} - \frac{t^2}{T})}{t(T-t)},$$

*In all tests, the single-dose treatment groups are compared with the single-dose control group and the multiple-dose treatment groups compared with the multiple-dose control group.

where $\sum n_i x_i$ stands for $\sum_{i=1}^n n_i x_i$, $\sum \frac{n_i^2}{N}$ for $\sum_{i=1}^3 \frac{n_i^2}{N_i}$, etc., and the x_i are the dosage levels.

This calculation is then repeated with x replaced by $\log x$. The Armitage test is also applied to the following 2×4 contingency table:

<u>Control</u>	<u>dose 1</u>	<u>dose 2</u>	<u>dose 3</u>
n_0	n_1	n_2	n_3
$N_0 - n_0$	$N_1 - n_1$	$N_2 - n_2$	$N_3 - n_3$

In this case, $C=4$.

The printout for the Armitage tests includes the degrees of freedom, the number pregnant (N PRG) and the number mated (N MTD) for each of the 3 or 4 groups included in the tests, plus $\chi^2_{(C-1)}$, χ^2_1 and their difference (labeled ARMTG CHISQ).

5. The t-test is applied to determine significant differences between the average number of implantations per pregnant female at a dose level, and the average for the control. Let

n_i = no. of pregnant females at dose level i .

u_{ij} = total no. of implantations for pregnant female j of dose i .

Then,

$$\bar{u}_i = \frac{1}{n_i} \sum_{j=1}^{n_i} u_{ij}$$

$$s_i^2 = \sum_{j=1}^{n_i} (u_{ij} - \bar{u}_i)^2$$

The T-statistic for dose i has $n_o + n_i - 2$ degrees of freedom, and is equal to:

$$t_i = \frac{\bar{u}_o - \bar{u}_i}{\sqrt{\left[\frac{s_o^2 + s_i^2}{n_o + n_i - 2} \left(\frac{1}{n_o} + \frac{1}{n_i} \right) \right]^{1/2}}}$$

The t-test printout gives, for each group: the number pregnant (N PRG), the mean and standard deviation of the number of implantations. The absolute value of T and the degrees of freedom (DF) are given for each treatment group and for TEM.

6. A regression fit of the average number of implantations, \bar{u}_i , is made for both the arithmetic and logarithmic dose (X_i and $\log X_i$) to see which is better.

These two fits include the data from the three treatment groups only. A third regression using the X_i as independent variables includes data from the three treatment groups and the control group.

The regressions are computed as follows:

Let N = the number of observations, i.e., the total number of pregnant females in the groups used in the regression.

X_i = the value of the independent variable (dose or log dose) for the i -th female.

U_i = the value of the dependent variable (number of implantations) for the i -th female.

Then,

$$\bar{X} = \frac{1}{N} \sum_{i=1}^N X_i$$

SD X = standard deviation of the X_i

$$= \left[\frac{1}{N-1} SS_X \right]^{1/2},$$

$$\text{where } SS_X = \sum_{i=1}^N (X_i - \bar{X})^2$$

$$\bar{U} = \frac{1}{N} \sum_{i=1}^N U_i,$$

SD U = standard deviation of the U_i

$$= \left[\frac{1}{N-1} SS_U \right]^{1/2},$$

$$\text{where } SS_U = \sum_{i=1}^N (U_i - \bar{U})^2,$$

$$\text{and } S_{XU} = \sum_{i=1}^N (X_i - \bar{X})(U_i - \bar{U}).$$

From these quantities, we compute:

B = estimate of the slope of the regression line

$$= S_{XU}/SS_X,$$

A = estimate of the intercept of the regression line

$$= \bar{U} - B\bar{X},$$

Also,

$$\begin{aligned}\text{VARU.X} &= \text{variance of } U \text{ about the regression line} \\ &= \frac{\text{SS}_U - (S_{XU})^2 / \text{SS}_X}{N-2}\end{aligned}$$

and from this is computed,

$$\text{VARB} = \text{variance of the estimate, B}$$

$$= \frac{\text{VARU.X}}{\text{SS}_X}$$

$$\text{VARA} = \text{variance of the estimate, A}$$

$$= \text{VARU.X} \left[\frac{1}{N} + \frac{\bar{x}^2}{\text{SS}_X} \right]$$

$$\text{VARUBAR} = \text{variance of } U,$$

$$= \frac{\text{VARU.X}}{N}$$

and

$$\text{CV } U.X = \text{coefficient of variation of } U \text{ about } X$$

$$= \frac{(\text{VARU.X})^{1/2}}{\bar{U}}$$

And finally we have:

TB = the t-statistic for testing the hypothesis that the regression slope is zero

$$= \frac{B}{\sqrt{\text{VARB}}}$$

$$DF = \text{number of degrees of freedom for TB}$$

$$= N - 2$$

7. The preimplantation loss, y_{ij} , is calculated for each pregnant female, j , as the number of corpora lutea, v_{ij} , minus the number of implantations, u_{ij} . Then the Freeman-Tukey transformation is applied to y_{ij} as follows:

$$f_{ij} = \sin^{-1} \sqrt{\frac{y_{ij}}{v_{ij}+1}} + \sin^{-1} \sqrt{\frac{y_{ij}+1}{v_{ij}+1}}$$

The t-test is then applied to the f 's. Let

$$\bar{f}_i = \frac{1}{n_i} \sum_{j=1}^{n_i} f_{ij}$$

$$s_i^2 = \sum_{j=1}^{n_i} (f_{ij} - \bar{f}_i)^2,$$

where n_i , and n_o are defined above (step 3).

Then $t_i = \frac{\bar{f}_o - \bar{f}_i}{\sqrt{\frac{s_o^2 + s_i^2}{n_o + n_i - 2} \left(\frac{1}{n_o} + \frac{1}{n_i} \right)}}$

The printout gives, for each group, the number of pregnant females (N_{PRG}), the mean and standard deviation of the f_{ij} 's. For each treatment group and for TEM, the absolute value of t_i (T), and its degrees of freedom (DF) are given.

8. The number of dead implants, z_{ij} , for each female, j , is the sum of the early and late deaths. The Freeman-Tukey transformation and the subsequent t-test is applied to the dead implants for pregnant females by repeating step 7 above with z_{ij} substituted for y_{ij} .

9. The number of pregnant females with one or more dead implants, m_i , is calculated. In the printout, the m_i are referred to as N WDI (i.e., "number with dead implants").

10. The chi-square test and Armitage's test for a linear trend is calculated for the proportion of pregnant females with one or more dead implants,

$$p_i = \frac{m_i}{n_i}$$

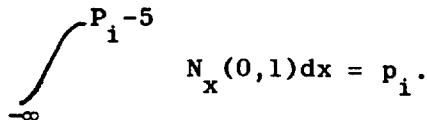
by repeating steps 3 and 4, above, with m_i substituted for n_i , and n_i substituted for N_i .

In the printout, the ratio, p_i , is called the "death index", in analogy with the fertility index.

11. The ratios, p_i , computed above, undergo a probit analysis to determine whether the probit of this proportion is linearly related to the log dose. Computer subroutine PROBT, from the IBM System/360 Scientific Subroutine Package Version III, is used to compute A and B and the χ^2 statistic for the regression equation,

$$P_i = A + B * \log x_i$$

where P_i is derived by the program from


$$N_x(0,1)dx = p_i.$$

($N_x(0,1)$ is the normal curve, with a mean of 0 and a standard deviation of 1).

12. The number of dead implants, z_{ij} , and the number of total implants, u_{ij} , are calculated for each pregnant female, j. The Freeman-Tukey transformation and subsequent t-test is applied to this data by repeating step 7, above, as follows:

$$f_{ij} = \sin^{-1} \sqrt{\frac{z_{ij}}{n_{ij}+1}} + \sin^{-1} \sqrt{\frac{z_{ij+1}}{n_{ij+1}}}$$

$$\bar{f}_i = \frac{1}{n_i} \sum_{j=1}^{n_i} f_{ij}$$

$$s_i^2 = \sum_{j=1}^{n_i} (f_{ij} - \bar{f}_i)^2$$

$$t_i = \left[\frac{\bar{f}_o - \bar{f}_i}{\frac{s_o^2 + s_i^2}{\frac{n_o + n_i - 2}{\left(\frac{1}{n_o} + \frac{1}{n_i} \right)}}} \right]^{1/2}$$

13. Five one-way analyses of variance are performed on the control groups' data. The five variables analyzed are:

- a. Number of pregnant females,
- b. Number of implantations per pregnant female,
- c. The pre-implantation loss (as defined in Step 7) per pregnant female,
- d. The number of dead implants per pregnant female,
- e. The ratio of dead implants to the total implants per pregnant female.

In view of the fact that none of the variables on which the one-way analysis of variance have been performed is even approximately normal in distribution, the probability levels associated with these analyses of variances are necessarily approximate.

For case a., R_{kj} equals 1 if female j assigned to male k became pregnant; otherwise R_{kj} equals zero. For cases b. through e. the tabulation is limited to data for pregnant females; i.e., R_{kj} equals the value of the specified variable for female j assigned to male k if the female was pregnant; data for non-pregnant females are excluded.

For case a., L_k equals the number of females assigned to male k. For cases b. through e., L_k equals the number of females assigned to male k that became pregnant.

For each of these variables the ANOVA calculations are as follows:

M is the number of males

$$\bar{R}_k = \frac{1}{L_k} \sum_{j=1}^{L_k} R_{kj}$$

$$\bar{R} = \frac{1}{M} \sum_{k=1}^M \bar{R}_k$$

Then, the sum-of-squares-within-males = $SUMSQ_w$

$$= \sum_{k=1}^M = \sum_{j=1}^{L_k} (R_{kj} - \bar{R}_k)^2,$$

the degrees-of-freedom-within-males = DF_w

$$= \sum_{k=1}^M (L_k - 1),$$

and the mean-square-within-males = $MEANSQ_w = \frac{SUMSQ_w}{DF_w}$.

Similarly, the sum-of-squares-between-males = $SUMSQ_B = \sum_{k=1}^M L_k (\bar{R}_k - \bar{R})^2$,

the degrees-of-freedom-between-males = $DF_B = M-1$,

and the mean-square-between-males = $MEANSQ_B = \frac{SUMSQ_B}{DF_B}$.

Finally, the F-ratio is $F = \frac{MEANSQ_B}{MEANSQ_w}$.

In the printout, these quantities are labeled without the subscripts, but the "within" and "between" quantities are identified by the page heading.

Also, the total-sum-of-squares = $SUMSQ_w + SUMSQ_B$

and its degrees-of-freedom

$$= \sum_{k=1}^M L_k - 1,$$

are printed.

14. The t-test is applied to determine significant differences between the average number of corpora lutea per pregnant female at a dose level, and the average for the control. Let

n_i = no. of pregnant females at dose level i.

c_{ij} = total no. of corpora lutea for pregnant female j of dose i.

Then,

$$\bar{c}_i = \frac{1}{n_i} \sum_{j=1}^{n_i} c_{ij}$$

$$s_i^2 = \sum_{j=1}^{n_i} (c_{ij} - \bar{c}_i)^2$$

The T-statistic for dose i has $n_o + n_i - 2$ degrees of freedom, and is equal to:

$$t_i = \frac{\bar{c}_o - \bar{c}_i}{\sqrt{\left[\frac{s_o^2 + s_i^2}{n_o + n_i - 2} \left(\frac{1}{n_o} + \frac{1}{n_i} \right) \right]^{1/2}}}$$

The t-test printout gives, for each group: the number pregnant (N PRG), the mean and standard deviation of the number of corpora lutea. The absolute value of T and the degrees of freedom (DF) are given for each treatment group and for TEM.

APPENDIX A

**Statistical Analysis Procedures for Dominant Lethal
Gene Tests With a Description and Explanation of the
Computer Printouts**

APPENDIX B

Raw Data and Statistical Analyses

CONTENTS

Item	Page
1. Raw Data	
Week 1	1 - 5
Week 2	6 - 10
Week 3	11 - 15
Week 4	16 - 20
Week 5	21 - 25
Week 6	26 - 30
Week 7	31 - 35
Week 8	36 - 38
2. Chi-square test of the Fertility Index	39
3. Armitage test for a Linear Trend in Proportions for the Fertility Index - Dose Levels	40
4. Armitage Test for a Linear Trend in Proportions for the Fertility Index - Log of Dose Levels	41
5. Armitage Test for a Linear Trend in Proportions for the Fertility Index - Dose Levels and Controls	42
6. T-Test of number of Implantations	43
7. Regression Fits of the Number, U, of Implantations Dose and Log Dose - Control Excluded	44
8. Regression Fits of the Number, U, of Implantations Dose - Control Group Included	45
9. T-Test of the (Transformed) Pre-Implantation Losses	46
10. T-Test of the (Transformed) Number of Dead Implants	47
11. Chi-square Test of the Death Index	48
12. Armitage Test for a Linear Trend in Proportions for the Death Index - Dose Levels	49
13. Armitage Test for a Linear Trend in Proportions for the Death Index - Log of Dose Levels	50
14. Armitage Test for a Linear Trend in Proportions for the Fertility Index - Dose Levels including Control	51
15. Probit Analysis of the Proportions of Females with one or more Dead Implants	52
16. T-Test of the (transformed) Number of Dead Implants over Total Implants	53
17. Control Group ANOVA for the Number of Pregnant Females	54
18. Control Group ANOVA for the Number of Implantations Per Pregnant Females	55
19. Control Group ANOVA for the Pre-Implantation Loss per Pregnant Female	56
20. Control Group ANOVA for the Number of Dead Implants per Female	57
21. Control Group ANOVA for the Ratio of Dead Implants to Total Implants per Female	58
22. T-Test of the Number of Corpora Lutea in Pregnant Females	59

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 1

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS	EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
								L	R	L	R	L	R
CNTRL9	1	S	0.0000	1	1	Y	3	9	0	0	0	0	5 10
CNTRL9	1	S	0.0000	1	2	N	-0	-0	-0	-0	-0	-0	-0 -0
CNTRL9	1	S	0.0000	2	3	Y	9	3	0	0	0	0	9 3
CNTRL9	1	S	0.0000	2	4	Y	4	8	0	0	0	0	5 10
CNTRL9	1	S	0.0000	3	5	Y	4	9	0	0	0	1	4 9
CNTRL9	1	SS	0.0000	3	6	N	-0	-0	-0	-0	-0	-0	-0 -0
CNTRL9	1	S	0.0000	4	7	Y	9	5	0	0	0	0	9 5
CNTRL9	1	S	0.0000	4	8	N	-0	-0	-0	-0	-0	-0	-0 -0
CNTRL9	1	S	0.0000	5	9	Y	5	10	0	0	0	2	5 10
CNTRL9	1	S	0.0000	5	10	Y	4	3	1	0	0	0	9 6
CNTRL9	1	S	0.0000	6	11	N	-0	-0	-0	-0	-0	-0	-0 -0
CNTRL9	1	S	0.0000	6	12	Y	1	0	0	0	0	0	4 8
CNTRL9	1	SS	0.0000	7	13	Y	8	7	0	0	1	0	8 7
CNTRL9	1	S	0.0000	7	14	N	-0	-0	-0	-0	-0	-0	-0 -0
CNTRL9	1	SS	0.0000	8	15	Y	9	5	0	0	0	0	9 5
CNTRL9	1	S	0.0000	8	16	Y	5	7	0	0	0	0	5 7
CNTRL9	1	S	0.0000	9	17	Y	7	6	0	0	0	0	7 6
CNTRL9	1	S	0.0000	9	18	Y	3	10	0	1	0	0	3 10
CNTRL9	1	S	0.0000	10	19	Y	7	7	2	0	1	0	8 8
CNTRL9	1	S	0.0000	10	20	Y	5	9	0	0	0	0	5 9
71-9	1	S	.0300	51	101	Y	1	0	0	0	1	0	4 7
71-9	1	SS	.0300	51	102	Y	8	5	0	1	0	0	8 5
71-9	1	SS	.0300	52	103	Y	3	12	0	0	0	1	3 12
71-9	1	SS	.0300	52	104	Y	6	7	0	0	0	0	7 7
71-9	1	SS	.0300	53	105	Y	7	5	0	0	0	0	7 6
71-9	1	SS	.0300	53	106	Y	2	8	0	0	0	0	3 9
71-9	1	SS	.0300	54	107	Y	4	9	0	0	0	0	4 9
71-9	1	SS	.0300	54	108	Y	4	1	0	0	2	0	8 4
71-9	1	SS	.0300	55	109	Y	7	9	0	0	0	0	7 9
71-9	1	SS	.0300	55	110	Y	6	6	1	0	0	0	6 6
71-9	1	SS	.0300	56	111	Y	4	5	0	0	0	0	8 5
71-9	1	SS	.0300	56	112	Y	9	5	0	0	2	0	10 5
71-9	1	SS	.0300	57	113	Y	5	7	0	0	0	0	10 6
71-9	1	SS	.0300	57	114	Y	1	4	0	1	0	0	5 7
71-9	1	SS	.0300	58	115	Y	8	3	0	0	0	0	10 3
71-9	1	SS	.0300	58	116	Y	5	6	0	0	0	0	7 6
71-9	1	SS	.0300	59	117	Y	5	9	0	1	1	2	6 9
71-9	1	SS	.0300	59	118	Y	5	7	0	0	0	0	5 9
71-9	1	SS	.0300	50	119	N	-0	-0	-0	-0	-0	-0	-0 -0
71-9	1	S	.0300	60	120	Y	7	5	0	0	0	0	9 6

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 3

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS	EARLY DEATHS		LATE DEATHS		CORPORA LUTEA		
								L	R	L	R	L	R	
TEM9	1	S	.0002	11	21	Y	4	7	1	1	0	0	4	7
TEM9	1	S	.0002	11	22	Y	7	6	5	5	0	0	7	6
TEM9	1	S	.0002	12	23	Y	5	8	1	0	0	0	5	8
TEM9	1	S	.0002	12	24	Y	3	5	2	3	0	0	4	8
TEM9	1	S	.0002	13	25	Y	5	7	0	0	3	0	6	7
TEM9	1	S	.0002	13	26	Y	4	8	3	4	0	1	4	9
TEM9	1	S	.0002	14	27	Y	7	9	2	4	1	1	7	9
TEM9	1	S	.0002	14	28	Y	5	4	1	1	0	0	6	7
TEM9	1	S	.0002	15	29	Y	6	4	0	0	2	0	8	5
TEM9	1	S	.0002	15	30	Y	5	7	0	3	3	0	5	7
TEM9	1	S	.0002	16	31	Y	6	7	0	0	5	2	6	7
TEM9	1	S	.0002	16	32	Y	3	7	3	4	0	0	6	7
TEM9	1	S	.0002	17	33	Y	8	5	0	2	0	0	9	5
TEM9	1	S	.0002	17	34	Y	5	8	3	3	0	2	5	8
TEM9	1	S	.0002	18	35	Y	8	7	0	0	0	0	9	6
TEM9	1	S	.0002	18	36	Y	7	6	2	3	1	0	9	5
TEM9	1	S	.0002	19	37	Y	8	5	3	3	0	0	9	5
TEM9	1	S	.0002	19	38	Y	6	5	5	4	0	0	9	5
TEM9	1	S	.0002	20	39	Y	7	6	0	1	0	0	7	6
TEM9	1	S	.0002	20	40	Y	5	6	3	2	0	0	8	7
CNTRL9	1	M	0.0000	1	1	Y	3	9	0	0	0	0	5	10
CNTRL9	1	M	0.0000	1	2	N	-0	-0	-0	-0	-0	-0	-0	-0
CNTRL9	1	M	0.0000	2	3	Y	9	3	0	0	0	0	9	3
CNTRL9	1	M	0.0000	2	4	Y	4	8	0	0	0	0	5	10
CNTRL9	1	M	0.0000	3	5	Y	4	9	0	0	0	1	4	9
CNTRL9	1	M	0.0000	3	6	Y	-0	-0	-0	-0	-0	-0	-0	-0
CNTRL9	1	M	0.0000	4	7	Y	9	5	0	0	0	0	9	5
CNTRL9	1	M	0.0000	4	8	Y	-0	-0	-0	-0	-0	-0	-0	-0
CNTRL9	1	M	0.0000	5	9	Y	5	10	0	0	0	2	5	10
CNTRL9	1	M	0.0000	5	10	Y	4	3	1	0	0	0	9	6
CNTRL9	1	M	0.0000	6	11	Y	-0	-0	-0	-0	-0	-0	-0	-0
CNTRL9	1	M	0.0000	6	12	Y	1	0	0	0	0	0	4	8
CNTRL9	1	M	0.0000	7	13	Y	8	7	0	0	1	0	8	7
CNTRL9	1	M	0.0000	7	14	N	-0	-0	-0	-0	-0	-0	-0	-0
CNTRL9	1	M	0.0000	8	15	Y	9	5	0	0	0	0	9	5
CNTRL9	1	M	0.0000	8	16	Y	5	7	0	0	0	0	5	7
CNTRL9	1	M	0.0000	9	17	Y	7	6	0	0	0	0	7	6
CNTRL9	1	M	0.0000	9	18	Y	3	10	2	0	1	0	3	10
CNTRL9	1	M	0.0000	10	19	Y	7	7	0	0	1	0	8	8
CNTRL9	1	M	0.0000	10	20	Y	5	9	0	0	0	0	5	9

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 4

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS	EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
								L	R	L	R	L	R
71-9	1	M	.0300	41	81	Y	10	6	0	0	0	0	10 6
71-9	1	M	.0300	41	82	YY	6	6	0	0	0	0	6 7
71-9	1	M	.0300	42	83	YY	7	6	0	0	0	0	7 6
71-9	1	M	.0300	42	84	YY	8	6	1	0	1	1	8 6
71-9	1	M	.0300	43	85	YY	5	8	0	0	0	0	5 9
71-9	1	M	.0300	43	86	YY	7	6	1	1	0	0	7 6
71-9	1	M	.0300	44	87	YY	4	8	0	0	0	0	4 8
71-9	1	M	.0300	44	88	YY	7	8	0	0	0	0	9 8
71-9	1	M	.0300	45	89	YY	7	3	0	0	0	0	7 4
71-9	1	M	.0300	45	90	YY	6	6	0	0	0	0	7 6
71-9	1	M	.0300	46	91	YY	9	4	0	0	0	0	10 4
71-9	1	M	.0300	46	92	YY	6	7	0	0	1	0	10 4
71-9	1	M	.0300	47	93	YY	7	6	0	0	1	0	7 7
71-9	1	M	.0300	47	94	YY	4	9	0	0	0	0	4 9
71-9	1	M	.0300	48	95	YY	5	5	0	0	0	0	7 6
71-9	1	M	.0300	48	96	YY	3	7	0	0	1	0	3 9
71-9	1	M	.0300	49	97	YY	6	7	0	0	0	0	7 7
71-9	1	M	.0300	49	98	YY	5	8	0	0	1	0	5 8
71-9	1	M	.0300	50	99	YY	4	2	0	0	0	0	5 7
71-9	1	M	.0300	50	100	Y	5	8	0	0	0	0	5 9
71-9	1	M	.0500	51	101	Y	0	2	0	0	0	0	7 5
71-9	1	M	.0500	51	102	YY	5	7	0	0	0	0	5 7
71-9	1	M	.0500	52	103	YY	6	9	0	0	0	0	2 6 9
71-9	1	M	.0500	52	104	YY	4	6	0	0	2	2	5 6
71-9	1	M	.0500	53	105	YY	7	5	0	0	0	0	7 5
71-9	1	M	.0500	53	106	YY	4	5	0	0	0	0	4 6
71-9	1	M	.0500	54	107	YY	5	8	0	0	0	0	5 8
71-9	1	M	.0500	54	108	N	-0	-0	-0	-0	-0	-0	-0 -0
71-9	1	M	.0500	55	109	YY	4	4	0	0	0	0	5 7
71-9	1	M	.0500	55	110	YY	4	8	0	0	1	2	5 9
71-9	1	M	.0500	56	111	YY	7	6	0	0	0	0	7 6
71-9	1	M	.0500	56	112	N	-0	-0	-0	-0	-0	-0	-0 -0
71-9	1	M	.0500	57	113	YY	7	6	0	0	0	0	7 6
71-9	1	M	.0500	57	114	YY	3	7	0	0	0	0	3 10
71-9	1	M	.0500	58	115	YY	4	10	0	0	0	0	4 10
71-9	1	M	.0500	58	116	YY	5	7	0	0	0	0	6 8
71-9	1	M	.0500	59	117	YY	4	8	0	0	0	0	9 8
71-9	1	M	.0500	59	118	YY	4	8	0	0	0	0	4 8
71-9	1	M	.0500	60	119	YY	6	7	0	0	0	0	6 7
71-9	1	M	.0500	60	120	Y	5	9	1	0	0	0	5 9

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 5

TEST MATERIAL	WEEK	S/M	DOSE	MALE			PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
				NO.	FEMALE NO.	PREG.		L	R	L	R	L	R	L	R
71-9	1	M	.0700	61	121	Y		6	6	0	0	0	0	6	7
71-9	1	M	.0700	61	122	Y		3	8	0	2	0	0	3	9
71-9	1	M	.0700	62	123	Y		4	8	0	0	0	0	4	9
71-9	1	M	.0700	62	124	Y		8	4	1	0	0	0	9	4
71-9	1	M	.0700	63	125	Y		8	6	0	0	2	0	8	6
71-9	1	M	.0700	63	126	Y		7	7	0	0	0	0	7	7
71-9	1	M	.0700	64	127	Y		1	0	1	0	0	0	4	4
71-9	1	M	.0700	64	128	N		-0	-0	-0	-0	-0	-0	-0	-0
71-9	1	M	.0700	65	129	Y		7	7	1	0	0	1	8	7
71-9	1	M	.0700	65	130	Y		5	6	0	0	0	1	5	7
71-9	1	M	.0700	66	131	Y		7	8	0	0	0	1	2	8
71-9	1	M	.0700	66	132	Y		6	6	0	0	0	0	6	6
71-9	1	M	.0700	67	133	Y		6	6	0	0	0	0	6	6
71-9	1	M	.0700	67	134	Y		5	5	0	0	0	0	7	5
71-9	1	M	.0700	68	135	Y		3	8	0	0	0	0	6	8
71-9	1	M	.0700	68	136	Y		6	6	0	0	0	1	2	6
71-9	1	M	.0700	69	137	Y		3	11	0	0	0	0	1	11
71-9	1	M	.0700	69	138	Y		8	4	0	0	0	0	0	5
71-9	1	M	.0700	70	139	Y		4	10	0	0	0	0	5	10
71-9	1	M	.0700	70	140	Y		6	7	0	0	0	0	6	8

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 6

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS	EARLY DEATHS		LATE DEATHS		CORPORA LUTEA		
								L	R	L	R	L	R	
CNTRL9	2	S	0.0000	1	1	Y	9	7	0	0	0	0	9	9
CNTRL9	2	S	0.0000	1	2	YY	5	8	1	1	0	0	5	8
CNTRL9	2	S	0.0000	2	3	YY	5	0	0	0	0	0	5	7
CNTRL9	2	S	0.0000	2	4	YY	6	9	0	0	1	0	6	9
CNTRL9	2	S	0.0000	3	5	YY	5	9	0	0	0	3	5	9
CNTRL9	2	S	0.0000	3	6	YY	6	7	0	0	0	0	6	7
CNTRL9	2	S	0.0000	4	7	YY	5	8	0	0	0	0	5	8
CNTRL9	2	S	0.0000	4	8	YY	5	6	0	0	0	0	6	6
CNTRL9	2	S	0.0000	5	9	YY	6	7	0	0	0	0	7	8
CNTRL9	2	S	0.0000	5	10	YY	1	1	0	0	0	1	8	4
CNTRL9	2	SS	0.0000	6	11	YY	7	8	0	0	0	0	7	8
CNTRL9	2	SS	0.0000	6	12	YY	6	6	0	0	0	0	6	6
CNTRL9	2	SS	0.0000	7	13	YY	7	6	0	0	1	0	7	6
CNTRL9	2	SS	0.0000	7	14	YY	2	6	1	1	1	3	3	9
CNTRL9	2	SS	0.0000	8	15	YY	0	7	0	0	0	0	0	7
CNTRL9	2	SS	0.0000	8	16	YY	8	3	0	0	0	0	12	3
CNTRL9	2	SS	0.0000	9	17	YY	2	7	0	0	0	0	7	7
CNTRL9	2	SS	0.0000	9	18	YY	6	5	0	0	0	0	7	5
CNTRL9	2	SS	0.0000	10	19	YY	7	6	0	0	0	0	7	6
CNTRL9	2	S	0.0000	10	20	Y	6	6	1	0	0	0	6	6
71-9	2	S	.0300	51	101	Y	6	9	0	0	0	0	7	9
71-9	2	SS	.0300	51	102	YY	3	7	0	0	1	1	7	8
71-9	2	SS	.0300	52	103	YY	7	4	0	0	0	0	7	4
71-9	2	SS	.0300	52	104	YY	2	13	0	0	0	0	2	14
71-9	2	SS	.0300	53	105	YY	7	6	0	0	0	0	7	6
71-9	2	SS	.0300	53	106	YY	7	2	1	0	0	0	7	2
71-9	2	SS	.0300	54	107	Y	2	11	0	1	0	0	2	12
71-9	2	SS	.0300	54	108	YY	10	4	0	0	0	0	11	4
71-9	2	SS	.0300	55	109	YY	8	0	0	1	0	0	5	10
71-9	2	SS	.0300	55	110	YY	5	10	0	2	0	0	3	10
71-9	2	SS	.0300	56	111	YY	3	10	0	1	0	0	11	6
71-9	2	SS	.0300	56	112	YY	10	6	0	0	3	1	11	6
71-9	2	SS	.0300	57	113	YY	10	6	0	0	1	1	6	8
71-9	2	SS	.0300	57	114	YY	6	8	0	1	1	0	9	4
71-9	2	SS	.0300	58	115	YY	8	3	1	0	0	1	6	8
71-9	2	SS	.0300	58	116	YY	6	8	0	0	2	0	7	9
71-9	2	SS	.0300	59	117	YY	6	8	0	1	0	0	7	5
71-9	2	SS	.0300	59	118	YY	7	3	0	0	2	0	7	8
71-9	2	SS	.0300	60	119	YY	3	4	0	0	0	1	12	3
71-9	2	S	.0300	60	120	Y	12	3	0	0	0	0	12	3

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 7

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 8

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R
TEM9	2	S	.0002	11	21	Y	3	0	0	0	0	0	5	5
TEM9	2	S	.0002	11	22	YY	3	2	0	0	3	2	10	3
TEM9	2	S	.0002	12	23	YY	3	6	3	5	0	0	5	6
TEM9	2	S	.0002	12	24	YY	2	5	2	4	0	0	2	10
TEM9	2	S	.0002	13	25	YY	3	6	3	5	0	1	5	8
TEM9	2	S	.0002	13	26	YY	2	3	0	0	0	0	4	7
TEM9	2	S	.0002	14	27	YY	2	7	2	7	0	0	5	8
TEM9	2	S	.0002	14	28	YY	5	6	4	6	0	0	5	7
TEM9	2	S	.0002	15	29	YY	7	2	0	0	7	2	8	5
TEM9	2	S	.0002	15	30	YY	2	5	2	5	0	0	4	7
TEM9	2	S	.0002	16	31	YY	5	4	5	3	0	0	5	5
TEM9	2	S	.0002	16	32	YY	4	0	3	0	0	0	7	4
TEM9	2	S	.0002	17	33	YY	1	3	0	2	0	0	2	8
TEM9	2	S	.0002	17	34	YY	4	0	0	0	4	0	8	6
TEM9	2	S	.0002	18	35	YY	6	6	0	0	4	1	5	8
TEM9	2	S	.0002	18	36	YY	5	5	3	0	0	2	5	8
TEM9	2	S	.0002	19	37	YY	0	1	0	0	0	1	6	4
TEM9	2	S	.0002	19	38	YY	6	3	0	0	0	0	8	5
TEM9	2	S	.0002	20	39	YY	4	0	4	0	0	0	5	5
TEM9	2	S	.0002	20	40	Y	3	5	1	3	1	1	8	7
CNTRL9	2	M	0.0000	1	1	Y	9	7	0	0	0	0	9	9
CNTRL9	2	M	0.0000	1	2	YY	5	8	1	1	0	0	5	8
CNTRL9	2	M	0.0000	2	3	YY	5	0	0	0	0	0	5	7
CNTRL9	2	M	0.0000	2	4	YY	6	9	0	0	1	0	6	9
CNTRL9	2	M	0.0000	3	5	YY	5	9	0	0	0	0	5	9
CNTRL9	2	M	0.0000	3	6	YY	6	7	0	0	0	0	6	7
CNTRL9	2	M	0.0000	4	7	YY	5	8	0	0	0	0	5	8
CNTRL9	2	M	0.0000	4	8	YY	5	6	0	0	0	0	6	6
CNTRL9	2	M	0.0000	5	9	YY	6	7	0	0	0	0	7	8
CNTRL9	2	M	0.0000	5	10	YY	1	1	0	0	0	1	8	4
CNTRL9	2	M	0.0000	6	11	YY	7	8	0	0	0	0	7	8
CNTRL9	2	M	0.0000	6	12	YY	6	6	0	0	0	0	6	6
CNTRL9	2	M	0.0000	7	13	YY	7	6	0	0	1	0	7	6
CNTRL9	2	M	0.0000	7	14	YY	2	6	1	1	1	3	3	9
CNTRL9	2	M	0.0000	8	15	YY	0	7	0	0	0	0	0	0
CNTRL9	2	M	0.0000	8	16	YY	8	3	0	0	0	0	12	3
CNTRL9	2	M	0.0000	9	17	YY	2	7	0	0	0	0	7	7
CNTRL9	2	M	0.0000	9	18	YY	6	5	0	0	0	0	7	6
CNTRL9	2	M	0.0000	10	19	YY	7	6	0	0	0	0	7	6
CNTRL9	2	M	0.0000	10	20	Y	6	6	1	0	0	0	6	6

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 9

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R
71-9	2	M	.0300	41	81	Y	5	6	0	0	0	0	5	7
71-9	2	M	.0300	41	82	Y	5	2	0	0	1	0	5	8
71-9	2	M	.0300	42	83	Y	2	4	0	1	0	0	4	8
71-9	2	M	.0300	42	84	Y	4	5	0	0	0	0	8	6
71-9	2	M	.0300	43	85	Y	10	5	1	0	0	0	11	5
71-9	2	M	.0300	43	86	Y	7	7	0	0	0	0	7	7
71-9	2	M	.0300	44	87	Y	7	6	0	0	0	0	8	7
71-9	2	M	.0300	44	88	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	2	M	.0300	45	89	Y	5	7	0	0	0	0	5	7
71-9	2	M	.0300	45	90	Y	6	7	0	0	0	1	6	7
71-9	2	M	.0300	46	91	Y	3	10	0	0	0	0	4	10
71-9	2	M	.0300	46	92	Y	7	6	0	0	0	0	7	7
71-9	2	M	.0300	47	93	Y	5	8	1	0	0	0	5	8
71-9	2	M	.0300	47	94	Y	0	7	0	0	0	0	8	7
71-9	2	M	.0300	48	95	Y	3	9	0	0	1	0	5	8
71-9	2	M	.0300	48	96	Y	5	8	0	0	0	0	4	9
71-9	2	M	.0300	49	97	Y	3	9	0	0	0	1	4	9
71-9	2	M	.0300	49	98	Y	0	1	0	0	0	1	2	6
71-9	2	M	.0300	50	99	Y	6	6	0	1	1	0	8	6
71-9	2	M	.0300	50	100	Y	6	9	0	0	0	1	6	9
71-9	2	M	.0500	51	101	Y	10	3	0	0	2	0	10	3
71-9	2	M	.0500	51	102	Y	8	7	1	1	0	0	8	7
71-9	2	M	.0500	52	103	Y	6	8	1	0	0	2	6	8
71-9	2	M	.0500	52	104	Y	9	4	0	0	0	0	10	4
71-9	2	M	.0500	53	105	Y	10	5	0	0	4	2	10	5
71-9	2	M	.0500	53	106	Y	5	7	0	0	0	0	5	7
71-9	2	M	.0500	54	107	Y	7	8	2	0	0	0	7	8
71-9	2	M	.0500	54	108	Y	6	6	0	0	0	0	6	6
71-9	2	M	.0500	55	109	Y	8	4	0	0	0	0	8	4
71-9	2	M	.0500	55	110	Y	6	5	0	0	0	0	6	5
71-9	2	M	.0500	56	111	Y	4	7	2	1	0	0	6	7
71-9	2	M	.0500	56	112	Y	2	10	0	0	0	0	2	10
71-9	2	M	.0500	57	113	Y	2	0	1	0	0	0	3	4
71-9	2	M	.0500	57	114	Y	8	6	0	0	0	0	8	6
71-9	2	M	.0500	58	115	Y	5	8	0	0	0	3	5	10
71-9	2	M	.0500	58	116	Y	8	7	0	0	4	0	8	7
71-9	2	M	.0500	59	117	Y	8	5	0	0	0	1	6	5
71-9	2	M	.0500	59	118	Y	6	8	0	0	0	0	6	6
71-9	2	M	.0500	60	119	Y	6	8	0	0	0	0	6	9
71-9	2	M	.0500	60	120	Y	2	11	0	0	0	1	2	13

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 10

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R
71-9	2	M	.0700	61	121	Y	8	5	0	0	0	0	8	5
71-9	2	M	.0700	61	122	Y	7	5	0	0	0	0	7	5
71-9	2	M	.0700	62	123	Y	8	6	0	0	0	0	9	6
71-9	2	M	.0700	62	124	Y	3	3	0	0	0	1	10	10
71-9	2	M	.0700	63	125	Y	3	10	0	1	0	0	3	10
71-9	2	M	.0700	63	126	Y	5	8	0	0	2	2	5	8
71-9	2	M	.0700	64	127	Y	5	5	0	1	0	0	6	6
71-9	2	M	.0700	64	128	Y	6	6	0	1	0	0	6	7
71-9	2	M	.0700	65	129	Y	8	7	0	0	0	1	8	7
71-9	2	M	.0700	65	130	Y	7	5	1	0	0	0	7	5
71-9	2	M	.0700	66	131	Y	3	5	2	1	0	0	5	8
71-9	2	M	.0700	66	132	Y	4	5	0	0	0	0	6	5
71-9	2	M	.0700	67	133	Y	6	4	1	0	0	0	6	4
71-9	2	M	.0700	67	134	Y	9	8	2	0	0	0	9	8
71-9	2	M	.0700	68	135	Y	8	4	1	1	0	0	9	4
71-9	2	M	.0700	68	136	Y	5	7	2	0	0	3	5	7
71-9	2	M	.0700	69	137	Y	5	10	0	0	0	0	5	10
71-9	2	M	.0700	69	138	Y	2	10	0	0	0	0	2	10
71-9	2	M	.0700	70	139	Y	6	6	0	0	3	3	6	6
71-9	2	M	.0700	70	140	Y	10	6	0	0	1	0	10	6

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 11

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R
CNTRL9	3	S	0.0000	1	1	Y	7	3	0	0	1	0	8	3
CNTRL9	3	S	0.0000	1	2	Y	0	11	0	0	0	0	3	11
CNTRL9	3	S	0.0000	2	3	Y	7	7	1	1	0	0	7	7
CNTRL9	3	S	0.0000	2	4	Y	8	6	1	0	0	0	8	6
CNTRL9	3	S	0.0000	3	5	Y	7	7	0	0	1	0	7	9
CNTRL9	3	S	0.0000	3	6	Y	4	8	0	0	1	2	5	9
CNTRL9	3	S	0.0000	4	7	Y	6	8	0	0	0	0	6	6
CNTRL9	3	S	0.0000	4	8	Y	5	8	0	0	0	1	5	10
CNTRL9	3	S	0.0000	5	9	Y	4	8	0	0	0	0	5	8
CNTRL9	3	S	0.0000	5	10	Y	7	5	0	1	0	0	7	5
CNTRL9	3	S	0.0000	6	11	Y	2	9	0	0	0	0	2	11
CNTRL9	3	S	0.0000	6	12	Y	8	7	0	0	0	0	8	7
CNTRL9	3	S	0.0000	7	13	Y	5	7	0	0	0	0	6	8
CNTRL9	3	S	0.0000	7	14	Y	8	3	0	0	0	0	1	4
CNTRL9	3	S	0.0000	8	15	Y	6	5	0	0	1	0	6	5
CNTRL9	3	S	0.0000	8	16	Y	3	7	1	0	0	1	4	9
CNTRL9	3	S	0.0000	9	17	Y	8	6	0	1	0	0	8	6
CNTRL9	3	S	0.0000	9	18	Y	8	4	1	0	0	0	9	4
CNTRL9	3	S	0.0000	10	19	Y	1	7	0	0	0	0	5	7
CNTRL9	3	S	0.0000	10	20	Y	6	9	0	0	0	1	7	9
71-9	3	S	.0300	51	101	Y	4	6	4	0	0	2	4	7
71-9	3	S	.0300	51	102	Y	7	8	0	0	0	0	7	8
71-9	3	S	.0300	52	103	Y	7	5	0	1	0	1	8	5
71-9	3	S	.0300	52	104	Y	2	7	0	0	0	0	3	8
71-9	3	S	.0300	53	105	Y	5	7	0	0	0	0	5	7
71-9	3	S	.0300	53	106	Y	4	9	0	0	0	0	4	9
71-9	3	S	.0300	54	107	Y	1	5	0	0	0	0	7	5
71-9	3	S	.0300	54	108	Y	4	8	0	0	0	0	5	8
71-9	3	S	.0300	55	109	Y	3	7	0	0	0	0	3	8
71-9	3	S	.0300	55	110	Y	7	4	0	0	0	1	8	4
71-9	3	S	.0300	56	111	Y	8	5	0	0	0	0	8	6
71-9	3	S	.0300	56	112	Y	3	5	0	1	0	0	5	6
71-9	3	S	.0300	57	113	Y	5	5	1	0	0	0	7	5
71-9	3	S	.0300	57	114	Y	6	8	0	0	0	0	6	8
71-9	3	S	.0300	58	115	Y	3	9	0	0	0	0	3	11
71-9	3	S	.0300	58	116	Y	8	5	2	0	0	0	8	5
71-9	3	S	.0300	59	117	Y	6	6	0	0	3	0	6	7
71-9	3	S	.0300	59	118	Y	5	7	1	0	0	0	5	6
71-9	3	S	.0300	60	119	Y	6	7	0	0	0	0	6	7
71-9	3	S	.0300	60	120	Y	7	5	0	0	0	0	9	5

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 12

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS	EARLY DEATHS		LATE DEATHS		CORPORA LUTEA		
								L	R	L	R	L	R	
71-9	3	S	.0500	61	121	Y	4	8	0	0	0	0	4	8
71-9	3	S	.0500	61	122	Y	6	3	0	0	0	0	7	4
71-9	3	S	.0500	62	123	Y	6	10	1	2	0	0	6	10
71-9	3	S	.0500	62	124	Y	9	4	0	0	2	0	10	4
71-9	3	S	.0500	63	125	Y	4	9	0	0	0	0	4	10
71-9	3	S	.0500	63	126	Y	8	6	0	1	1	0	8	6
71-9	3	S	.0500	64	127	Y	7	7	0	0	0	0	7	7
71-9	3	S	.0500	64	128	Y	5	4	1	0	0	0	6	4
71-9	3	S	.0500	65	129	Y	6	0	1	0	0	0	6	7
71-9	3	S	.0500	65	130	Y	6	5	0	0	0	0	9	5
71-9	3	S	.0500	66	131	Y	5	10	0	2	0	0	5	10
71-9	3	S	.0500	66	132	Y	5	8	0	1	0	0	5	8
71-9	3	S	.0500	67	133	Y	6	5	0	0	0	0	6	5
71-9	3	S	.0500	67	134	Y	9	4	2	0	0	0	9	4
71-9	3	S	.0500	68	135	Y	5	4	0	2	0	0	5	6
71-9	3	S	.0500	68	136	Y	6	6	0	1	0	0	8	6
71-9	3	S	.0500	69	137	Y	6	7	0	0	0	0	6	7
71-9	3	S	.0500	69	138	Y	9	4	0	1	0	0	9	5
71-9	3	S	.0500	70	139	Y	3	9	0	0	0	0	3	10
71-9	3	S	.0500	70	140	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	3	S	.0700	71	141	Y	0	6	0	0	0	0	6	7
71-9	3	S	.0700	71	142	Y	9	4	3	0	0	0	9	4
71-9	3	S	.0700	72	143	Y	6	6	0	0	0	0	6	6
71-9	3	S	.0700	72	144	Y	5	2	2	0	0	0	5	7
71-9	3	S	.0700	73	145	Y	8	4	0	0	0	0	8	4
71-9	3	S	.0700	73	146	Y	8	6	0	0	0	0	9	6
71-9	3	S	.0700	74	147	Y	3	9	1	1	0	0	2	3
71-9	3	S	.0700	74	148	Y	6	6	0	0	0	0	6	7
71-9	3	S	.0700	75	149	Y	5	10	0	0	0	0	5	10
71-9	3	S	.0700	75	150	Y	7	9	0	0	0	0	7	9
71-9	3	S	.0700	76	151	Y	6	5	0	1	0	2	7	5
71-9	3	S	.0700	76	152	Y	6	6	0	0	0	1	7	6
71-9	3	S	.0700	77	153	Y	3	7	0	1	0	0	3	9
71-9	3	S	.0700	77	154	Y	6	7	0	0	0	0	6	8
71-9	3	S	.0700	78	155	Y	7	7	0	0	0	1	7	7
71-9	3	S	.0700	78	156	Y	10	5	1	0	0	1	10	5
71-9	3	S	.0700	79	157	Y	4	9	0	0	0	0	4	9
71-9	3	S	.0700	79	158	Y	2	2	0	0	0	0	3	5
71-9	3	S	.0700	80	159	Y	6	6	0	0	0	0	7	6
71-9	3	S	.0700	80	160	Y	6	7	1	4	0	0	6	7

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 13

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	H
TEM9	3	S	.0002	11	21	Y	3	1	3	1	0	0	6	0
TEM9	3	S	.0002	11	22	Y	1	3	1	3	0	0	3	8
TEM9	3	S	.0002	12	23	Y	4	4	4	4	0	0	6	5
TEM9	3	S	.0002	12	24	Y	3	5	3	5	0	0	4	8
TEM9	3	S	.0002	13	25	Y	1	2	1	2	0	0	8	4
TEM9	3	S	.0002	13	26	Y	2	6	2	4	0	0	4	10
TEM9	3	S	.0002	14	27	Y	3	4	2	4	0	0	6	8
TEM9	3	S	.0002	14	28	Y	6	5	4	3	0	1	6	6
TEM9	3	S	.0002	15	29	Y	8	4	8	0	0	3	9	6
TEM9	3	S	.0002	15	30	Y	2	4	1	4	0	0	3	8
TEM9	3	S	.0002	16	31	Y	4	7	4	7	0	0	6	8
TEM9	3	S	.0002	16	32	Y	0	4	0	3	0	0	6	7
TEM9	3	S	.0002	17	33	Y	5	4	0	0	5	4	6	6
TEM9	3	S	.0002	17	34	Y	7	8	7	6	0	0	7	10
TEM9	3	S	.0002	18	35	Y	3	6	2	5	0	0	9	6
TEM9	3	S	.0002	18	36	Y	6	6	6	5	0	0	8	7
TEM9	3	S	.0002	19	37	Y	6	5	6	5	0	0	7	5
TEM9	3	S	.0002	19	38	Y	3	2	0	0	0	0	6	7
TEM9	3	S	.0002	20	39	Y	4	4	4	4	0	0	6	7
TEM9	3	S	.0002	20	40	Y	7	5	7	4	0	0	7	5
CNTRL9	3	M	0.0000	1	1	Y	7	3	0	0	1	0	8	3
CNTRL9	3	M	0.0000	1	2	Y	0	11	0	0	0	0	3	11
CNTRL9	3	M	0.0000	2	3	Y	7	7	1	1	0	0	7	7
CNTRL9	3	M	0.0000	2	4	Y	8	6	1	0	0	0	8	6
CNTRL9	3	M	0.0000	3	5	Y	7	7	0	0	1	0	7	9
CNTRL9	3	M	0.0000	3	6	Y	4	8	0	0	1	2	5	9
CNTRL9	3	M	0.0000	4	7	Y	6	8	0	0	0	0	6	9
CNTRL9	3	M	0.0000	4	8	Y	5	8	0	0	0	1	5	10
CNTRL9	3	M	0.0000	5	9	Y	4	8	0	0	0	0	5	8
CNTRL9	3	M	0.0000	5	10	Y	7	5	0	1	0	0	7	5
CNTRL9	3	M	0.0000	6	11	Y	2	9	0	0	0	0	2	11
CNTRL9	3	M	0.0000	6	12	Y	8	7	0	0	0	0	8	7
CNTRL9	3	M	0.0000	7	13	Y	5	7	0	0	0	2	6	8
CNTRL9	3	M	0.0000	7	14	Y	8	3	0	0	0	1	9	4
CNTRL9	3	M	0.0000	8	15	Y	6	5	0	0	1	0	6	5
CNTRL9	3	M	0.0000	8	16	Y	3	7	1	0	0	1	4	9
CNTRL9	3	M	0.0000	9	17	Y	8	6	0	1	0	0	8	4
CNTRL9	3	M	0.0000	9	18	Y	8	4	1	0	0	0	0	7
CNTRL9	3	M	0.0000	10	19	Y	1	7	0	0	0	0	5	7
CNTRL9	3	M	0.0000	10	20	Y	6	9	0	0	0	0	7	9

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 14

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS	EARLY DEATHS		LATE DEATHS		CORPORA LUTEA		
								L	R	L	R	L	R	
71-9	3	M	.0300	41	81	Y	1	0	1	0	0	0	7	8
71-9	3	M	.0300	41	82	YY	3	10	0	0	0	0	3	10
71-9	3	M	.0300	42	83	YY	5	6	0	0	0	0	7	7
71-9	3	M	.0300	42	84	YY	9	6	0	0	0	0	10	6
71-9	3	M	.0300	43	85	YY	4	1	0	0	0	0	4	9
71-9	3	M	.0300	43	86	YY	3	6	0	0	0	0	5	6
71-9	3	M	.0300	44	87	YY	5	5	0	0	0	0	5	7
71-9	3	M	.0300	44	88	YY	7	6	0	0	0	0	7	6
71-9	3	M	.0300	45	89	YY	7	5	0	0	0	0	7	6
71-9	3	M	.0300	45	90	YY	5	6	0	0	0	0	6	6
71-9	3	M	.0300	46	91	YY	4	9	0	0	0	0	4	9
71-9	3	M	.0300	46	92	YY	5	6	0	0	0	0	5	7
71-9	3	M	.0300	47	93	YY	4	8	0	2	0	0	4	8
71-9	3	M	.0300	47	94	YY	8	4	0	0	0	0	8	4
71-9	3	M	.0300	48	95	YY	5	6	0	0	0	0	8	6
71-9	3	M	.0300	48	96	YY	6	7	0	0	0	0	6	7
71-9	3	M	.0300	49	97	YY	7	5	0	0	0	0	7	5
71-9	3	M	.0300	49	98	YY	7	6	0	0	0	0	7	6
71-9	3	M	.0300	50	99	YY	7	6	0	0	0	0	8	7
71-9	3	M	.0300	50	100	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	3	M	.0500	51	101	Y	4	8	0	0	0	0	4	8
71-9	3	M	.0500	51	102	YY	4	9	0	0	1	0	4	9
71-9	3	M	.0500	52	103	YY	5	7	0	0	0	1	5	7
71-9	3	M	.0500	52	104	NY	-0	-0	-0	-0	-0	-0	-0	-0
71-9	3	M	.0500	53	105	YY	7	5	0	0	0	0	7	6
71-9	3	M	.0500	53	106	YY	6	10	0	0	0	0	8	10
71-9	3	M	.0500	54	107	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	3	M	.0500	54	108	YY	6	6	0	1	0	0	6	6
71-9	3	M	.0500	55	109	YY	8	7	0	0	0	0	8	7
71-9	3	M	.0500	55	110	YY	5	6	0	1	1	0	5	6
71-9	3	M	.0500	56	111	YY	4	0	1	0	0	0	6	6
71-9	3	M	.0500	56	112	YY	4	9	0	0	0	0	4	10
71-9	3	M	.0500	57	113	YY	6	6	0	0	0	0	6	8
71-9	3	M	.0500	57	114	YY	6	9	0	0	2	0	6	9
71-9	3	M	.0500	58	115	YY	5	8	1	0	0	0	5	8
71-9	3	M	.0500	58	116	YY	6	6	1	0	2	0	6	6
71-9	3	M	.0500	59	117	YY	10	3	1	0	0	0	12	3
71-9	3	M	.0500	59	118	YY	6	6	0	0	0	0	7	6
71-9	3	M	.0500	60	119	YY	6	3	0	0	0	0	9	7
71-9	3	M	.0500	60	120	Y	7	4	0	0	0	0	7	4

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 15

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS				EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R	L	R
71-9	3	M	.0700	61	121	Y	3	9	0	0	0	0	3	10		
71-9	3	M	.0700	61	122	Y	6	8	0	0	0	0	8	8		
71-9	3	M	.0700	62	123	Y	6	8	0	0	0	1	6	8		
71-9	3	M	.0700	62	124	Y	6	7	0	0	0	0	7	7		
71-9	3	M	.0700	63	125	Y	4	11	0	0	0	0	4	11		
71-9	3	M	.0700	63	126	Y	7	8	0	1	1	2	7	10		
71-9	3	M	.0700	64	127	Y	7	7	0	0	0	0	10	7		
71-9	3	M	.0700	64	128	Y	3	6	0	0	0	0	6	8		
71-9	3	M	.0700	65	129	Y	6	7	0	0	0	0	7	7		
71-9	3	M	.0700	65	130	Y	5	8	0	3	0	0	6	8		
71-9	3	M	.0700	66	131	Y	4	8	0	0	0	0	4	8		
71-9	3	M	.0700	66	132	Y	7	7	0	0	0	0	7	7		
71-9	3	M	.0700	67	133	Y	8	6	1	0	1	0	8	6		
71-9	3	M	.0700	67	134	Y	6	6	0	0	0	0	6	6		
71-9	3	M	.0700	68	135	Y	4	8	0	0	0	0	5	8		
71-9	3	M	.0700	68	136	Y	5	5	0	0	0	1	6	6		
71-9	3	M	.0700	69	137	Y	4	6	0	0	0	0	4	7		
71-9	3	M	.0700	69	138	Y	8	5	0	0	0	0	8	5		
71-9	3	M	.0700	70	139	Y	6	7	0	0	0	0	6	7		
71-9	3	M	.0700	70	140	Y	7	5	0	0	0	0	7	5		

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 16

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS				EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R	L	R
CNTRL9	4	S	0.0000	1	1	Y	5	8	0	0	0	0	5	8		
CNTRL9	4	S	0.0000	1	2	Y	4	8	0	0	0	1	4	8		
CNTRL9	4	S	0.0000	2	3	Y	8	6	0	0	2	3	8	6		
CNTRL9	4	S	0.0000	2	4	Y	5	6	0	0	0	0	5	10		
CNTRL9	4	S	0.0000	3	5	Y	8	7	0	0	0	0	8	7		
CNTRL9	4	S	0.0000	3	6	Y	4	7	0	0	0	0	4	9		
CNTRL9	4	S	0.0000	4	7	Y	8	9	0	0	0	0	8	9		
CNTRL9	4	S	0.0000	4	8	Y	4	11	0	0	0	1	4	11		
CNTRL9	4	S	0.0000	5	9	Y	5	7	0	0	1	0	5	7		
CNTRL9	4	S	0.0000	5	10	Y	6	7	0	0	1	3	6	7		
CNTRL9	4	S	0.0000	6	11	Y	2	7	1	1	0	2	6	10		
CNTRL9	4	S	0.0000	6	12	Y	5	8	0	0	0	0	5	8		
CNTRL9	4	S	0.0000	7	13	Y	5	9	0	0	1	1	5	9		
CNTRL9	4	S	0.0000	7	14	Y	5	7	0	1	0	0	6	10		
CNTRL9	4	S	0.0000	8	15	Y	8	6	0	0	0	0	8	6		
CNTRL9	4	S	0.0000	8	16	Y	3	8	1	1	0	0	4	9		
CNTRL9	4	S	0.0000	9	17	Y	5	7	0	0	0	0	6	7		
CNTRL9	4	S	0.0000	9	18	Y	5	4	0	0	0	0	5	6		
CNTRL9	4	S	0.0000	10	19	Y	6	10	0	0	0	0	7	10		
CNTRL9	4	S	0.0000	10	20	Y	5	8	0	0	0	0	5	8		
71-9	4	S	.0300	51	101	Y	7	5	0	1	2	0	9	5		
71-9	4	S	.0300	51	102	Y	3	0	3	0	0	0	7	5		
71-9	4	S	.0300	52	103	Y	4	9	0	0	0	0	4	6		
71-9	4	S	.0300	52	104	Y	7	5	0	0	0	0	8	6		
71-9	4	S	.0300	53	105	Y	8	6	1	0	2	2	8	6		
71-9	4	S	.0300	53	106	Y	7	5	1	0	0	0	8	5		
71-9	4	S	.0300	54	107	Y	9	3	0	0	0	1	10	4		
71-9	4	S	.0300	54	108	Y	7	4	0	0	0	0	7	4		
71-9	4	S	.0300	55	109	Y	9	3	0	0	0	0	10	3		
71-9	4	S	.0300	55	110	Y	7	5	0	0	1	1	7	5		
71-9	4	S	.0300	56	111	Y	4	10	0	0	0	0	4	10		
71-9	4	S	.0300	56	112	Y	3	10	0	0	0	1	3	10		
71-9	4	S	.0300	57	113	Y	6	7	0	0	0	0	6	7		
71-9	4	S	.0300	57	114	Y	3	7	0	0	0	3	4	4		
71-9	4	S	.0300	58	115	Y	4	7	0	0	0	0	4	7		
71-9	4	S	.0300	58	116	N	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0
71-9	4	S	.0300	59	117	Y	7	3	0	0	0	0	8	5		
71-9	4	S	.0300	59	118	Y	2	8	0	0	0	0	3	9		
71-9	4	S	.0300	60	119	Y	8	3	0	0	0	0	9	3		
71-9	4	S	.0300	60	120	Y	10	5	0	0	0	1	10	5		

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 17

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 18

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS	EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
								L	R	L	R	L	R
TEM9	4	S	.0002	11	21	Y	5	2	0	0	3	2	10 8
TEM9	4	S	.0002	11	22	YY	2	1	2	1	0	0	8 3
TEM9	4	S	.0002	12	23	YY	4	7	1	1	0	0	4 8
TEM9	4	S	.0002	12	24	YY	1	5	1	5	0	0	7 6
TEM9	4	S	.0002	13	25	YY	5	2	0	0	5	2	7 4
TEM9	4	S	.0002	13	26	YY	4	5	4	5	0	0	5 7
TEM9	4	S	.0002	14	27	YY	4	4	4	4	0	0	4 7
TEM9	4	S	.0002	14	28	YY	4	4	4	4	0	0	5 6
TEM9	4	S	.0002	15	29	YY	2	3	0	2	2	1	7 5
TEM9	4	S	.0002	15	30	YY	2	4	0	0	0	0	6 7
TEM9	4	S	.0002	16	31	YY	3	3	3	3	0	0	7 9
TEM9	4	S	.0002	16	32	YY	2	4	2	4	0	0	7 6
TEM9	4	S	.0002	17	33	YY	3	3	0	0	3	3	7 7
TEM9	4	S	.0002	17	34	YY	3	4	0	0	3	4	5 8
TEM9	4	S	.0002	18	35	YY	1	4	1	4	0	0	5 9
TEM9	4	S	.0002	18	36	YY	2	7	2	6	0	0	3 11
TEM9	4	S	.0002	19	37	YY	6	5	0	0	3	3	6 5
TEM9	4	S	.0002	19	38	YY	2	0	2	0	0	0	8 7
TEM9	4	S	.0002	20	39	YY	1	0	0	0	1	0	9 12
TEM9	4	S	.0002	20	40	Y	6	2	1	0	5	2	6 7
CNTRL9	4	M	0.0000	1	1	Y	5	8	0	0	0	0	5 8
CNTRL9	4	M	0.0000	1	2	YY	4	8	0	0	0	1	4 8
CNTRL9	4	M	0.0000	2	3	YY	8	6	0	0	2	3	8 6
CNTRL9	4	M	0.0000	2	4	YY	5	6	0	0	0	0	5 10
CNTRL9	4	M	0.0000	3	5	YY	8	7	0	0	0	0	8 7
CNTRL9	4	M	0.0000	3	6	YY	4	7	0	0	0	0	4 9
CNTRL9	4	M	0.0000	4	7	YY	8	9	0	0	0	0	8 9
CNTRL9	4	M	0.0000	4	8	YY	4	11	0	0	0	1	4 11
CNTRL9	4	M	0.0000	5	9	YY	5	7	0	0	0	0	5 7
CNTRL9	4	M	0.0000	5	10	YY	6	7	0	0	1	3	6 7
CNTRL9	4	M	0.0000	6	11	YY	2	7	1	1	0	2	6 10
CNTRL9	4	M	0.0000	6	12	YY	5	8	0	0	0	0	5 8
CNTRL9	4	M	0.0000	7	13	YY	5	9	0	0	1	1	5 9
CNTRL9	4	M	0.3000	7	14	YY	5	7	0	1	0	0	6 10
CNTRL9	4	M	0.0000	8	15	YY	8	6	0	0	0	0	8 6
CNTRL9	4	M	0.0000	8	16	YY	3	8	1	1	0	0	4 9
CNTRL9	4	M	0.0000	9	17	YY	5	7	0	0	0	0	6 7
CNTRL9	4	M	0.0000	9	18	YY	5	4	0	0	0	0	5 6
CNTRL9	4	M	0.0000	10	19	YY	6	10	0	0	0	0	7 10
CNTRL9	4	M	0.0000	10	20	Y	5	8	0	0	0	0	5 8

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 19

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R
71-9	4	M	.0300	41	81	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	4	M	.0300	41	82	Y	1	0	0	0	0	0	6	4
71-9	4	M	.0300	42	83	Y	7	6	0	1	0	0	7	7
71-9	4	M	.0300	42	84	Y	1	2	0	0	0	0	7	8
71-9	4	M	.0300	43	85	Y	6	2	0	0	2	0	7	4
71-9	4	M	.0300	43	86	Y	3	0	0	0	0	0	6	6
71-9	4	M	.0300	44	87	Y	9	5	0	0	0	0	10	7
71-9	4	M	.0300	44	88	Y	2	7	0	0	0	1	2	7
71-9	4	M	.0300	45	89	Y	5	7	0	0	0	0	5	9
71-9	4	M	.0300	45	90	Y	5	7	0	0	0	0	6	7
71-9	4	M	.0300	46	91	Y	7	5	0	0	0	0	8	5
71-9	4	M	.0300	46	92	Y	5	10	0	0	0	0	5	10
71-9	4	M	.0300	47	93	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	4	M	.0300	47	94	Y	5	9	0	0	1	1	5	9
71-9	4	M	.0300	48	95	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	4	M	.0300	48	96	Y	7	7	0	0	0	0	7	7
71-9	4	M	.0300	49	97	Y	10	4	0	0	0	0	10	4
71-9	4	M	.0300	49	98	Y	7	6	0	0	0	0	7	6
71-9	4	M	.0300	50	99	Y	7	7	0	2	1	0	7	7
71-9	4	M	.0300	50	100	Y	6	7	0	0	0	0	6	7
71-9	4	M	.0500	51	101	Y	7	4	0	0	0	0	7	4
71-9	4	M	.0500	51	102	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	4	M	.0500	52	103	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	4	M	.0500	52	104	Y	6	6	0	0	1	0	6	6
71-9	4	M	.0500	53	105	Y	3	7	0	0	0	0	4	8
71-9	4	M	.0500	53	106	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	4	M	.0500	54	107	Y	4	8	0	0	0	0	4	8
71-9	4	M	.0500	54	108	Y	4	5	0	0	0	0	4	5
71-9	4	M	.0500	55	109	Y	8	2	0	0	0	0	8	4
71-9	4	M	.0500	55	110	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	4	M	.0500	56	111	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	4	M	.0500	56	112	Y	8	6	1	0	0	0	8	6
71-9	4	M	.0500	57	113	Y	7	5	0	0	0	0	7	6
71-9	4	M	.0500	57	114	Y	6	6	0	0	1	0	6	6
71-9	4	M	.0500	58	115	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	4	M	.0500	58	116	Y	8	4	0	0	0	0	8	4
71-9	4	M	.0500	59	117	Y	4	5	0	0	0	0	5	5
71-9	4	M	.0500	59	118	Y	5	5	1	0	0	0	5	5
71-9	4	M	.0500	60	119	Y	5	6	0	0	0	0	6	6
71-9	4	M	.0500	60	120	Y	7	6	0	0	0	0	7	6

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 20

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 21

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS	EARLY DEATHS		LATE DEATHS		CORPORA LUTEA		
								L	R	L	R	L	R	
CNTRL9	5	S	0.0000	1	1	Y	5	3	0	0	0	0	7	4
CNTRL9	5	S	0.0000	1	2	YY	4	8	0	0	0	0	4	8
CNTRL9	5	S	0.0000	2	3	YY	4	8	0	0	0	0	4	8
CNTRL9	5	S	0.0000	2	4	YY	7	4	0	0	0	0	12	8
CNTRL9	5	S	0.0000	3	5	YY	9	3	0	0	0	0	9	3
CNTRL9	5	S	0.0000	3	6	YY	3	11	0	0	0	2	3	12
CNTRL9	5	S	0.0000	4	7	YY	6	4	0	0	1	0	7	4
CNTRL9	5	S	0.0000	4	8	YY	5	5	0	0	0	0	5	5
CNTRL9	5	S	0.0000	5	9	YY	6	8	0	0	0	0	7	13
CNTRL9	5	S	0.0000	5	10	YY	5	7	1	0	1	0	5	7
CNTRL9	5	S	0.0000	6	11	YY	4	7	0	1	0	0	4	7
CNTRL9	5	S	0.0000	6	12	YY	7	6	0	0	0	0	7	6
CNTRL9	5	S	0.0000	7	13	YY	5	5	0	0	0	1	5	7
CNTRL9	5	S	0.0000	7	14	Y	6	6	0	0	0	0	6	6
CNTRL9	5	S	0.0000	8	15	YY	6	5	1	0	0	0	6	7
CNTRL9	5	S	0.0000	8	16	YY	5	8	1	0	0	0	5	8
CNTRL9	5	S	0.0000	9	17	YY	3	7	0	0	0	0	3	7
CNTRL9	5	S	0.0000	9	18	N	-0	-0	-0	-0	-0	-0	-0	-0
CNTRL9	5	S	0.0000	10	19	YY	9	4	0	0	0	0	10	4
CNTRL9	5	S	0.0000	10	20	Y	7	8	0	0	0	0	7	8
71-9	5	S	.0300	51	101	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	5	S	.0300	51	102	YY	4	6	0	0	0	0	4	6
71-9	5	S	.0300	52	103	YY	6	10	0	0	0	0	8	10
71-9	5	S	.0300	52	104	YY	4	6	0	0	1	0	4	7
71-9	5	S	.0300	53	105	YY	8	6	0	0	0	0	8	6
71-9	5	S	.0300	53	106	YY	5	10	0	0	0	0	5	10
71-9	5	S	.0300	54	107	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	5	S	.0300	54	108	YY	1	9	0	1	0	0	1	12
71-9	5	S	.0300	55	109	YY	5	6	1	0	0	0	8	6
71-9	5	S	.0300	55	110	YY	6	8	0	0	0	0	6	8
71-9	5	S	.0300	56	111	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	5	S	.0300	56	112	YY	4	8	0	0	0	0	4	8
71-9	5	S	.0300	57	113	YY	4	10	0	0	0	0	4	10
71-9	5	S	.0300	57	114	YY	8	4	0	0	0	0	8	4
71-9	5	S	.0300	58	115	YY	1	0	1	0	0	0	1	5
71-9	5	S	.0300	58	116	YY	9	6	1	1	0	0	12	8
71-9	5	S	.0300	59	117	YY	3	10	0	0	1	2	4	7
71-9	5	S	.0300	59	118	YY	4	7	0	0	1	0	6	5
71-9	5	S	.0300	60	119	YY	6	5	0	1	0	0	4	8
71-9	5	S	.0300	60	120	Y	4	6	0	0	0	0	4	8

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 22

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS	EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
								L	R	L	R	L	R
71-9	5	S	.0500	61	121	Y	6	7	0	1	0	0	8 7
71-9	5	S	.0500	61	122	YY	4	8	0	0	0	0	4 8
71-9	5	S	.0500	62	123	YY	5	5	1	1	0	0	5 6
71-9	5	S	.0500	62	124	YY	6	3	0	0	0	0	7 3
71-9	5	S	.0500	63	125	YY	4	7	0	0	0	0	4 7
71-9	5	S	.0500	63	126	YY	6	6	1	0	0	0	6 6
71-9	5	S	.0500	64	127	YY	7	6	0	0	0	0	7 6
71-9	5	S	.0500	64	128	YY	6	6	0	0	0	0	6 6
71-9	5	S	.0500	65	129	YY	4	9	0	0	0	0	4 9
71-9	5	S	.0500	65	130	YY	9	4	1	0	0	0	9 5
71-9	5	S	.0500	66	131	YY	8	5	0	0	0	0	9 6
71-9	5	S	.0500	66	132	YY	6	6	0	0	0	0	6 6
71-9	5	S	.0500	67	133	YY	5	5	0	0	0	0	5 6
71-9	5	S	.0500	67	134	YY	0	7	0	0	1	0	5 7
71-9	5	S	.0500	68	135	YY	5	6	0	0	0	0	5 6
71-9	5	S	.0500	68	136	YY	7	4	1	0	0	0	7 4
71-9	5	S	.0500	69	137	YY	8	3	1	0	0	0	8 4
71-9	5	S	.0500	69	138	YY	9	5	0	0	1	0	9 5
71-9	5	S	.0500	70	139	YY	6	6	0	1	0	0	7 6
71-9	5	S	.0500	70	140	Y	6	7	0	0	0	0	6 7
71-9	5	S	.0700	71	141	YY	4	0	0	0	0	0	7 4
71-9	5	S	.0700	71	142	YY	8	5	0	0	0	0	8 5
71-9	5	S	.0700	72	143	N	-0	-0	-0	-0	-0	-0	-0 -0
71-9	5	S	.0700	72	144	YY	3	8	0	0	0	0	4 8
71-9	5	S	.0700	73	145	YY	6	8	0	0	0	0	6 8
71-9	5	S	.0700	73	146	YY	0	8	0	0	0	0	5 9
71-9	5	S	.0700	74	147	YY	9	5	0	0	0	0	10 5
71-9	5	S	.0700	74	148	NY	-0	-0	-0	-0	-0	-0	-0 -0
71-9	5	S	.0700	75	149	YY	5	7	0	0	0	0	5 8
71-9	5	S	.0700	75	150	YY	4	5	0	1	0	0	5 5
71-9	5	S	.0700	76	151	YY	6	9	0	0	1	0	6 9
71-9	5	S	.0700	76	152	YY	1	8	0	0	0	0	2 9
71-9	5	S	.0700	77	153	YY	6	4	0	0	0	0	6 4
71-9	5	S	.0700	77	154	YY	4	10	0	0	0	0	4 10
71-9	5	S	.0700	78	155	YY	9	4	1	0	0	0	9 6
71-9	5	S	.0700	78	156	YY	3	4	0	0	0	0	4 7
71-9	5	S	.0700	79	157	YY	4	8	0	0	0	0	5 8
71-9	5	S	.0700	79	158	YY	2	2	0	1	1	0	4 9
71-9	5	S	.0700	80	159	NN	-0	-0	-0	-0	-0	-0	-0 -0
71-9	5	S	.0700	80	160	N	-0	-0	-0	-0	-0	-0	-0 -0

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 23

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R
TEM9	5	S	.0002	11	21	Y	2	7	0	0	0	3	3	8
TEM9	5	S	.0002	11	22	Y	4	4	1	1	0	3	4	4
TEM9	5	S	.0002	12	23	Y	3	8	0	0	0	0	3	9
TEM9	5	S	.0002	12	24	Y	2	3	2	3	0	0	9	10
TEM9	5	S	.0002	13	25	Y	5	5	2	2	0	0	6	5
TEM9	5	S	.0002	13	26	Y	5	8	0	0	1	0	5	8
TEM9	5	S	.0002	14	27	Y	6	5	2	1	0	7	6	6
TEM9	5	S	.0002	14	28	N	-0	-0	-0	-0	-0	-0	-0	-0
TEM9	5	S	.0002	15	29	Y	7	4	0	0	1	1	7	4
TEM9	5	S	.0002	15	30	Y	6	5	0	0	1	0	6	5
TEM9	5	S	.0002	16	31	Y	4	6	1	3	0	0	4	7
TEM9	5	S	.0002	16	32	Y	6	8	0	2	0	0	6	8
TEM9	5	S	.0002	17	33	Y	3	6	0	2	0	0	3	7
TEM9	5	S	.0002	17	34	Y	5	8	0	0	0	1	5	8
TEM9	5	S	.0002	18	35	Y	6	0	1	0	0	0	6	5
TEM9	5	S	.0002	18	36	Y	0	4	0	0	0	0	8	4
TEM9	5	S	.0002	19	37	Y	8	4	0	0	0	0	8	7
TEM9	5	S	.0002	19	38	Y	5	5	0	0	1	2	5	6
TEM9	5	S	.0002	20	39	Y	0	9	0	0	0	2	3	9
TEM9	5	S	.0002	20	40	Y	3	8	1	0	0	0	3	9
CNTRL9	5	M	0.0000	1	1	Y	5	3	0	0	0	0	7	4
CNTRL9	5	M	0.0000	1	2	Y	4	8	0	0	0	0	4	8
CNTRL9	5	M	0.0000	2	3	Y	4	8	0	0	0	0	4	8
CNTRL9	5	M	0.0000	2	4	Y	7	4	0	0	0	0	12	8
CNTRL9	5	M	0.0000	3	5	Y	9	3	0	0	0	0	9	3
CNTRL9	5	M	0.0000	3	6	Y	3	11	0	0	0	2	3	12
CNTRL9	5	M	0.0000	4	7	Y	6	4	0	0	1	0	7	4
CNTRL9	5	M	0.0000	4	8	Y	6	5	0	0	0	0	5	5
CNTRL9	5	M	0.0000	5	9	Y	6	8	0	0	0	0	7	13
CNTRL9	5	M	0.0000	5	10	Y	5	7	1	0	1	0	5	7
CNTRL9	5	M	0.0000	6	11	Y	4	7	0	1	0	0	4	7
CNTRL9	5	M	0.0000	6	12	Y	7	6	0	0	0	0	7	6
CNTRL9	5	M	0.0000	7	13	Y	5	5	0	0	0	1	5	7
CNTRL9	5	M	0.0000	7	14	Y	6	6	0	0	0	0	6	6
CNTRL9	5	M	0.0000	8	15	Y	6	5	1	0	0	0	6	7
CNTRL9	5	M	0.0000	8	16	Y	5	8	1	0	0	0	5	8
CNTRL9	5	M	0.0000	9	17	Y	3	7	0	0	0	0	3	7
CNTRL9	5	M	0.0000	9	18	N	-0	-0	-0	-0	-0	-0	-0	-0
CNTRL9	5	M	0.0000	10	19	Y	9	4	0	0	0	0	10	4
CNTRL9	5	M	0.0000	10	20	Y	7	8	0	0	0	0	7	8

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 24

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS L R	EARLY DEATHS		LATE DEATHS		CORPORA LUTEA L R		
								L	R	L	R	L	R	
71-9	5	M	.0300	41	81	Y	6	6	0	0	2	0	6	7
71-9	5	M	.0300	41	82	Y	7	4	0	0	1	0	9	8
71-9	5	M	.0300	42	83	Y	8	3	0	0	0	0	8	4
71-9	5	M	.0300	42	84	Y	3	9	1	0	0	0	4	9
71-9	5	M	.0300	43	85	Y	1	5	0	0	0	0	7	5
71-9	5	M	.0300	43	86	Y	7	8	0	0	0	0	8	8
71-9	5	M	.0300	44	87	Y	0	1	0	0	0	0	9	4
71-9	5	M	.0300	44	88	Y	7	8	0	0	0	0	7	8
71-9	5	M	.0300	45	89	Y	4	7	0	0	0	0	4	7
71-9	5	M	.0300	45	90	Y	0	1	0	0	0	0	4	7
71-9	5	M	.0300	46	91	Y	12	4	0	1	0	0	12	4
71-9	5	M	.0300	46	92	Y	1	9	0	1	0	0	3	11
71-9	5	M	.0300	47	93	Y	8	6	0	0	0	0	8	6
71-9	5	M	.0300	47	94	Y	5	6	1	0	0	0	6	6
71-9	5	M	.0300	48	95	Y	2	1	0	0	0	0	8	5
71-9	5	M	.0300	48	96	Y	7	6	0	0	0	0	8	6
71-9	5	M	.0300	49	97	Y	6	6	0	0	0	0	6	6
71-9	5	M	.0300	49	98	Y	7	2	0	0	0	0	8	2
71-9	5	M	.0300	50	99	Y	5	6	0	0	0	0	5	8
71-9	5	M	.0300	50	100	Y	4	8	0	0	0	0	4	8
71-9	5	M	.0500	51	101	Y	5	6	0	0	0	1	5	6
71-9	5	M	.0500	51	102	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	5	M	.0500	52	103	Y	6	6	0	0	0	0	7	6
71-9	5	M	.0500	52	104	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	5	M	.0500	53	105	Y	5	5	0	0	0	0	5	6
71-9	5	M	.0500	53	106	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	5	M	.0500	54	107	Y	4	7	1	0	0	0	5	8
71-9	5	M	.0500	54	108	Y	5	6	0	0	0	0	5	6
71-9	5	M	.0500	55	109	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	5	M	.0500	55	110	Y	7	4	0	0	1	0	8	4
71-9	5	M	.0500	56	111	Y	4	5	1	0	1	0	5	7
71-9	5	M	.0500	56	112	Y	4	10	0	0	0	0	4	11
71-9	5	M	.0500	57	113	Y	2	10	0	0	0	0	2	10
71-9	5	M	.0500	57	114	Y	6	6	0	0	0	0	6	6
71-9	5	M	.0500	58	115	Y	5	7	0	0	0	0	5	7
71-9	5	M	.0500	58	116	Y	8	5	2	1	0	0	9	5
71-9	5	M	.0500	59	117	Y	7	6	0	0	1	1	7	6
71-9	5	M	.0500	59	118	Y	7	3	0	0	1	0	7	4
71-9	5	M	.0500	60	119	Y	5	8	0	1	0	0	5	8
71-9	5	M	.0500	60	120	Y	8	6	0	1	0	0	9	6

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 25

TEST MATERIAL	WEEK	S/M	DOSE	MALE			PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
				NO.	FEMALE NO.	PREG.		L	R	L	R	L	R	L	R
71-9	5	M	.0700	61	121	Y		5	6	0	0	0	0	5	6
71-9	5	M	.0700	61	122	Y		7	7	0	0	0	0	8	7
71-9	5	M	.0700	62	123	Y		4	9	0	0	0	0	4	9
71-9	5	M	.0700	62	124	Y		6	6	0	0	0	0	6	6
71-9	5	M	.0700	63	125	Y		5	10	0	0	0	0	5	10
71-9	5	M	.0700	63	126	Y		5	6	1	0	0	0	5	6
71-9	5	M	.0700	64	127	Y		6	7	2	1	0	0	6	7
71-9	5	M	.0700	64	128	Y		6	7	0	0	0	0	6	7
71-9	5	M	.0700	65	129	Y		6	5	0	0	1	0	6	5
71-9	5	M	.0700	65	130	Y		8	5	0	0	0	0	8	5
71-9	5	M	.0700	66	131	Y		6	6	0	0	1	0	7	6
71-9	5	M	.0700	66	132	Y		6	9	0	0	0	0	6	9
71-9	5	M	.0700	67	133	Y		5	8	0	0	0	0	6	8
71-9	5	M	.0700	67	134	Y		8	7	1	0	0	0	9	7
71-9	5	M	.0700	68	135	Y		7	4	0	0	1	0	10	4
71-9	5	M	.0700	68	136	Y		7	5	0	0	0	0	7	5
71-9	5	M	.0700	69	137	Y		5	8	0	0	0	0	8	9
71-9	5	M	.0700	69	138	Y		2	4	0	0	0	0	4	11
71-9	5	M	.0700	70	139	Y		7	6	0	0	0	0	7	7
71-9	5	M	.0700	70	140	Y		6	6	0	0	0	0	6	6

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 26

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R
CNTRL9	6	S	0.0000	1	1	Y	7	2	0	0	0	0	7	2
CNTRL9	6	S	0.0000	1	2	YY	5	7	0	0	0	0	5	7
CNTRL9	6	S	0.0000	2	3	YY	12	4	0	0	1	0	12	4
CNTRL9	6	S	0.0000	2	4	YY	0	6	0	0	0	0	8	6
CNTRL9	6	S	0.0000	3	5	YY	5	8	0	0	0	0	7	8
CNTRL9	6	S	0.0000	3	6	Y	4	7	0	0	1	1	4	8
CNTRL9	6	S	0.0000	4	7	YY	8	5	0	0	0	0	8	5
CNTRL9	6	S	0.0000	4	8	YY	5	7	0	0	0	0	5	7
CNTRL9	6	S	0.0000	5	9	YY	0	7	0	0	0	1	6	7
CNTRL9	6	S	0.0000	5	10	YY	9	3	0	0	0	0	10	3
CNTRL9	6	S	0.0000	6	11	YY	7	5	0	0	0	0	7	5
CNTRL9	6	S	0.0000	6	12	YY	5	7	0	0	0	0	5	7
CNTRL9	6	S	0.0000	7	13	YY	7	6	0	0	5	0	7	6
CNTRL9	6	S	0.0000	7	14	YY	3	6	0	0	0	3	4	6
CNTRL9	6	S	0.0000	8	15	YY	6	8	0	0	0	0	6	8
CNTRL9	6	S	0.0000	8	16	YY	5	7	0	0	0	0	5	7
CNTRL9	6	S	0.0000	9	17	YY	5	7	0	0	0	0	5	8
CNTRL9	6	S	0.0000	9	18	YY	11	5	0	0	0	0	11	5
CNTRL9	6	S	0.0000	10	19	YY	6	8	1	0	0	0	6	9
CNTRL9	6	S	0.0000	10	20	Y	7	5	0	0	0	0	7	5
71-9	6	S	.0300	51	101	Y	8	3	0	0	0	0	9	3
71-9	6	S	.0300	51	102	YY	3	7	1	0	0	0	3	7
71-9	6	S	.0300	52	103	YY	8	5	0	0	0	0	8	5
71-9	6	S	.0300	52	104	YY	5	4	0	0	0	0	5	5
71-9	6	S	.0300	53	105	YY	4	9	0	0	0	0	4	10
71-9	6	S	.0300	53	106	YY	0	5	0	0	0	0	5	6
71-9	6	S	.0300	54	107	YY	5	7	1	0	0	0	5	7
71-9	6	S	.0300	54	108	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	6	S	.0300	55	109	YY	0	3	0	0	0	3	2	11
71-9	6	S	.0300	55	110	YY	9	4	0	0	0	0	9	5
71-9	6	S	.0300	56	111	YY	1	0	1	0	0	0	4	10
71-9	6	S	.0300	56	112	YY	4	9	1	3	0	0	4	9
71-9	6	S	.0300	57	113	YY	3	9	0	0	1	0	3	10
71-9	6	S	.0300	57	114	YY	5	7	1	2	0	0	6	8
71-9	6	S	.0300	58	115	YY	11	3	0	0	0	0	11	3
71-9	6	S	.0300	58	116	YY	8	7	0	0	0	0	9	7
71-9	6	S	.0300	59	117	YY	0	5	0	0	0	0	8	7
71-9	6	S	.0300	59	118	YY	6	7	0	0	1	0	6	7
71-9	6	S	.0300	60	119	YY	8	6	0	0	1	1	9	6
71-9	6	S	.0300	60	120	Y	7	6	0	0	0	0	7	6

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 27

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS	EARLY DEATHS		LATE DEATHS		CORPORAL LUTEA	
								L	R	L	R	L	R
71-9	6	S	.0500	61	121	Y	5	9	0	0	0	0	5
71-9	6	S	.0500	61	122	Y	4	8	0	0	1	0	4
71-9	6	S	.0500	62	123	N	-0	-0	-0	-0	-0	-0	-0
71-9	6	S	.0500	62	124	N	-0	-0	-0	-0	-0	-0	-0
71-9	6	S	.0500	63	125	YY	3	8	0	0	0	0	3
71-9	6	S	.0500	63	126	YY	3	10	0	0	0	0	3
71-9	6	S	.0500	64	127	N	-0	-0	-0	-0	-0	-0	-0
71-9	6	S	.0500	64	128	YY	6	5	0	1	0	0	6
71-9	6	S	.0500	65	129	YY	4	7	0	0	0	1	4
71-9	6	S	.0500	65	130	YY	4	8	0	0	0	0	4
71-9	6	S	.0500	66	131	YY	1	12	0	0	0	1	4
71-9	6	S	.0500	66	132	YY	8	3	1	0	0	0	8
71-9	6	S	.0500	67	133	YY	0	1	0	0	0	0	9
71-9	6	S	.0500	67	134	YY	6	7	1	0	0	1	6
71-9	6	S	.0500	68	135	YY	7	4	0	0	0	1	7
71-9	6	S	.0500	68	136	YY	2	9	0	1	0	0	2
71-9	6	S	.0500	69	137	YY	4	7	0	0	0	0	4
71-9	6	S	.0500	69	138	YY	7	3	0	0	0	0	7
71-9	6	S	.0500	70	139	YY	5	10	0	0	0	0	5
71-9	6	S	.0500	70	140	Y	5	7	0	1	0	0	5
71-9	6	S	.0700	71	141	Y	5	8	0	0	0	0	5
71-9	6	S	.0700	71	142	YY	2	8	0	0	0	0	4
71-9	6	S	.0700	72	143	YY	9	4	0	1	0	0	9
71-9	6	S	.0700	72	144	NY	-0	-0	-0	-0	-0	-0	11
71-9	6	S	.0700	73	145	YY	5	6	0	0	0	0	5
71-9	6	S	.0700	73	146	YY	5	8	0	0	0	0	5
71-9	6	S	.0700	74	147	YY	7	7	0	0	0	0	7
71-9	6	S	.0700	74	148	NY	-0	-0	-0	-0	-0	-0	-0
71-9	6	S	.0700	75	149	YY	9	6	0	0	0	0	10
71-9	6	S	.0700	75	150	YY	5	8	0	0	0	1	5
71-9	6	S	.0700	76	151	NY	-0	-0	-0	-0	-0	-0	-0
71-9	6	S	.0700	76	152	YY	7	5	0	0	0	0	8
71-9	6	S	.0700	77	153	YY	6	8	0	0	0	0	5
71-9	6	S	.0700	77	154	YY	6	6	0	0	0	0	6
71-9	6	S	.0700	78	155	YY	8	7	1	0	0	0	8
71-9	6	S	.0700	78	156	YY	8	5	0	0	0	0	8
71-9	6	S	.0700	79	157	YY	5	8	0	0	0	0	5
71-9	6	S	.0700	79	158	YY	5	9	0	0	0	0	4
71-9	6	S	.0700	80	159	YY	4	8	0	0	0	0	5
71-9	6	S	.0700	80	160	Y	8	3	0	0	0	0	12

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 28

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R
TEM9	6	S	.0002	11	21	Y	4	10	0	0	1	1	5	10
TEM9	6	S	.0002	11	22	YY	2	9	0	0	0	0	2	9
TEM9	6	S	.0002	12	23	Y	6	5	1	0	0	0	7	6
TEM9	6	S	.0002	12	24	YY	7	5	0	1	0	0	7	5
TEM9	6	S	.0002	13	25	Y	6	5	0	0	0	0	6	5
TEM9	6	S	.0002	13	26	Y	5	7	0	0	0	0	5	6
TEM9	6	S	.0002	14	27	YY	5	7	0	1	0	0	5	7
TEM9	6	S	.0002	14	28	YY	8	3	0	0	0	0	8	4
TEM9	6	S	.0002	15	29	YY	4	8	0	0	0	1	4	8
TEM9	6	S	.0002	15	30	Y	6	4	0	0	0	0	7	4
TEM9	6	S	.0002	16	31	YY	2	10	2	0	0	0	2	12
TEM9	6	S	.0002	16	32	YY	6	5	0	0	0	0	6	5
TEM9	6	S	.0002	17	33	YY	5	6	0	0	0	0	5	6
TEM9	6	S	.0002	17	34	YY	6	4	0	0	0	1	6	5
TEM9	6	S	.0002	18	35	YY	7	5	0	0	0	1	7	8
TEM9	6	S	.0002	18	36	YY	6	7	0	0	0	0	6	7
TEM9	6	S	.0002	19	37	YY	6	6	0	0	0	0	6	6
TEM9	6	S	.0002	19	38	YY	5	5	0	0	0	1	7	6
TEM9	6	S	.0002	20	39	YY	10	2	0	0	0	0	10	2
TEM9	6	S	.0002	20	40	Y	6	6	0	0	0	1	6	7
CNTRL9	6	M	0.0000	1	1	Y	7	2	0	0	0	0	7	2
CNTRL9	6	M	0.0000	1	2	YY	5	7	0	0	0	0	5	7
CNTRL9	6	M	0.0000	2	3	Y	12	4	0	0	0	1	12	4
CNTRL9	6	M	0.0000	2	4	YY	0	6	0	0	0	0	8	6
CNTRL9	6	M	0.0000	3	5	YY	5	8	0	0	0	0	7	8
CNTRL9	6	M	0.0000	3	6	YY	4	7	0	0	0	1	4	8
CNTRL9	6	M	0.0000	4	7	YY	8	5	0	0	0	0	8	5
CNTRL9	6	M	0.0000	4	8	YY	5	7	0	0	0	0	5	7
CNTRL9	6	M	0.0000	5	9	YY	0	7	0	0	0	0	6	7
CNTRL9	6	M	0.0000	5	10	YY	9	3	0	0	0	0	10	3
CNTRL9	6	M	0.0000	6	11	YY	7	5	0	0	0	0	7	5
CNTRL9	6	M	0.0000	6	12	YY	5	7	0	0	0	0	5	7
CNTRL9	6	M	0.0000	7	13	YY	7	6	0	0	0	5	7	6
CNTRL9	6	M	0.0000	7	14	YY	3	6	0	0	0	0	3	4
CNTRL9	6	M	0.0000	8	15	YY	6	8	0	0	0	0	6	8
CNTRL9	6	M	0.0000	8	16	YY	5	7	0	0	0	0	5	7
CNTRL9	6	M	0.0000	9	17	YY	5	7	0	0	0	0	5	8
CNTRL9	6	M	0.0000	9	18	YY	11	5	0	0	0	0	11	5
CNTRL9	6	M	0.0000	10	19	YY	6	8	1	0	0	0	6	9
CNTRL9	6	M	0.0000	10	20	Y	7	5	0	0	0	0	7	5

TEST	SEX	SMOKE	DOSE	NO.	SEX	NO.	IMPLANTS				EARLY DEATHS		LATE DEATHS		CORPORAL	
							L	S	L	S	L	S	L	S	L	S
71-9	6	M	.0300	41		81	Y		2	3	0	0	0	1	9	3
71-9	6	M	.0300	41		82	Y		5	6	0	0	0	0	8	6
71-9	6	M	.0300	42		83	Y		4	3	0	0	0	2	11	3
71-9	6	M	.0300	42		84	Y		4	10	0	1	0	2	4	10
71-9	6	M	.0300	43		85	Y		5	9	0	0	0	0	5	9
71-9	6	M	.0300	44		86	Y		6	8	2	0	0	0	4	8
71-9	6	M	.0300	44		87	Y		3	8	0	0	0	0	9	4
71-9	6	M	.0300	45		88	Y		8	4	0	0	0	0	12	10
71-9	6	M	.0300	45		89	Y		7	5	2	0	0	0	8	4
71-9	6	M	.0300	45		90	Y		7	5	1	1	0	0	7	5
71-9	6	M	.0300	46		91	Y		8	4	0	0	0	0	8	6
71-9	6	M	.0300	46		92	Y		7	5	1	1	0	0	2	9
71-9	6	M	.0300	47		93	Y		6	6	0	0	0	0	8	8
71-9	6	M	.0300	47		94	Y		2	9	0	0	0	0	5	9
71-9	6	M	.0300	48		95	Y		8	8	0	0	0	0	9	5
71-9	6	M	.0300	48		96	Y		5	9	0	0	0	0	10	5
71-9	6	M	.0300	49		97	Y		9	5	1	0	0	0	8	6
71-9	6	M	.0300	49		98	Y		9	5	1	0	0	0	6	6
71-9	6	M	.0300	50		99	Y		8	6	1	1	0	0	0	0
71-9	6	M	.0300	50		100	Y		6	5	0	2	1	0	0	0
71-9	6	M	.0500	51		101	Y		8	7	0	0	0	0	8	7
71-9	6	M	.0500	51		102	N		-0	-0	-0	-0	-0	-0	-0	-0
71-9	6	M	.0500	52		103	Y		4	10	0	0	0	0	5	10
71-9	6	M	.0500	52		104	Y		6	7	0	0	2	1	6	8
71-9	6	M	.0500	53		105	Y		4	9	0	0	0	0	5	9
71-9	6	M	.0500	53		106	Y		3	7	0	0	0	0	4	8
71-9	6	M	.0500	54		107	Y		4	9	0	0	0	0	6	9
71-9	6	M	.0500	54		108	Y		4	7	0	0	0	0	4	10
71-9	6	M	.0500	55		109	Y		5	7	0	0	0	0	6	7
71-9	6	M	.0500	55		110	N		-0	-0	-0	-0	-0	-0	-0	-0
71-9	6	M	.0500	56		111	N		-0	-0	-0	-0	-0	-0	-0	-0
71-9	6	M	.0500	56		112	Y		2	0	0	0	1	0	5	7
71-9	6	M	.0500	57		113	Y		5	7	0	0	1	1	5	9
71-9	6	M	.0500	57		114	Y		8	5	0	0	0	0	5	5
71-9	6	M	.0500	58		115	Y		4	11	0	1	0	0	-0	-0
71-9	6	M	.0500	58		116	N		-0	-0	-0	-0	-0	-0	7	6
71-9	6	M	.0500	59		117	Y		6	6	0	2	0	0	9	4
71-9	6	M	.0500	59		118	Y		8	4	0	0	0	0	10	8
71-9	6	M	.0500	60		119	Y		7	7	0	0	0	0	8	6
71-9	6	M	.0500	60		120	Y		8	6	0	0	0	0	0	0

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 30

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R
71-9	6	M	.0700	61	121	Y	4	8	0	0	0	0	4	8
71-9	6	M	.0700	61	122	Y	5	6	0	0	0	1	7	6
71-9	6	M	.0700	62	123	Y	6	5	0	0	0	0	6	5
71-9	6	M	.0700	62	124	N	-0	-0	-0	-0	-0	-0	-0	-0
71-9	6	M	.0700	63	125	Y	7	5	0	0	0	0	7	5
71-9	6	M	.0700	63	126	Y	7	5	0	0	0	0	7	5
71-9	6	M	.0700	64	127	Y	4	9	0	0	0	0	4	9
71-9	6	M	.0700	64	128	Y	5	8	0	1	0	0	5	10
71-9	6	M	.0700	65	129	Y	0	2	0	0	0	2	6	4
71-9	6	M	.0700	65	130	Y	7	6	0	0	0	0	7	6
71-9	6	M	.0700	66	131	Y	6	7	0	0	0	0	8	7
71-9	6	M	.0700	66	132	Y	8	2	0	0	0	0	10	2
71-9	6	M	.0700	67	133	Y	4	5	1	0	0	0	4	8
71-9	6	M	.0700	67	134	Y	9	4	1	1	0	1	9	4
71-9	6	M	.0700	68	135	Y	2	4	2	2	0	0	5	4
71-9	6	M	.0700	68	136	Y	9	5	0	0	0	0	9	5
71-9	6	M	.0700	69	137	Y	3	8	0	0	0	1	5	9
71-9	6	M	.0700	69	138	Y	5	7	0	1	0	0	5	7
71-9	6	M	.0700	70	139	Y	4	8	0	0	0	0	5	8
71-9	6	M	.0700	70	140	Y	8	10	0	0	0	0	8	10

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 31

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS	EARLY DEATHS		LATE DEATHS		CORPORA LUTEA		
								L	R	L	R	L	R	
CNTRL9	7	S	0.0000	1	1	Y	4	7	1	0	0	0	5	7
CNTRL9	7	S	0.0000	1	2	YY	3	6	0	0	0	0	6	7
CNTRL9	7	S	0.0000	2	3	YY	6	2	0	0	0	0	7	6
CNTRL9	7	S	0.0000	2	4	YY	3	7	0	0	0	0	3	8
CNTRL9	7	S	0.0000	3	5	YY	5	7	0	1	1	2	5	7
CNTRL9	7	S	0.0000	3	6	YY	4	7	0	0	0	1	4	8
CNTRL9	7	S	0.0000	4	7	YY	6	5	0	1	0	0	6	5
CNTRL9	7	S	0.0000	4	8	YY	2	8	1	0	0	1	2	8
CNTRL9	7	S	0.0000	5	9	YY	5	6	0	2	3	2	10	6
CNTRL9	7	S	0.0000	5	10	YY	7	5	0	0	0	2	7	6
CNTRL9	7	S	0.0000	6	11	YY	4	12	0	0	0	0	4	12
CNTRL9	7	S	0.0000	6	12	YY	4	9	0	1	0	0	4	10
CNTRL9	7	S	0.0000	7	13	YY	8	6	0	1	0	0	8	6
CNTRL9	7	S	0.0000	7	14	YY	5	8	0	0	0	0	5	9
CNTRL9	7	S	0.0000	8	15	YY	5	6	0	0	0	0	5	6
CNTRL9	7	S	0.0000	8	16	YY	4	3	0	0	0	1	4	9
CNTRL9	7	S	0.0000	9	17	YY	4	8	0	2	0	0	5	8
CNTRL9	7	S	0.0000	9	18	YY	4	8	0	0	0	1	5	8
CNTRL9	7	S	0.0000	10	19	YY	6	7	0	0	0	0	8	8
CNTRL9	7	S	0.0000	10	20	Y	4	5	0	0	0	0	4	6
71-9	7	S	.0300	51	101	Y	4	7	0	0	0	0	4	7
71-9	7	S	.0300	51	102	YY	8	6	0	0	0	0	8	6
71-9	7	S	.0300	52	103	YY	4	1	0	1	2	0	10	5
71-9	7	S	.0300	52	104	YY	7	6	1	0	0	0	7	7
71-9	7	S	.0300	53	105	YY	4	6	0	0	0	0	4	6
71-9	7	S	.0300	53	106	YY	4	8	0	0	1	0	4	8
71-9	7	S	.0300	54	107	YY	5	5	0	0	1	0	6	6
71-9	7	S	.0300	54	108	Y	9	3	0	0	0	0	9	3
71-9	7	S	.0300	55	109	YY	5	5	0	1	0	0	6	6
71-9	7	S	.0300	55	110	YY	4	7	0	0	0	0	5	7
71-9	7	S	.0300	56	111	YY	6	5	0	0	0	0	6	6
71-9	7	S	.0300	56	112	YY	2	2	2	1	0	0	8	4
71-9	7	S	.0300	57	113	YY	6	5	0	0	0	1	6	5
71-9	7	S	.0300	57	114	YY	9	5	0	0	1	2	11	5
71-9	7	S	.0300	58	115	YY	5	7	0	0	0	0	5	7
71-9	7	S	.0300	58	116	YY	3	9	0	0	0	0	3	9
71-9	7	S	.0300	59	117	YY	6	6	0	0	1	0	6	9
71-9	7	S	.0300	59	118	YY	5	6	1	0	0	0	5	6
71-9	7	S	.0300	60	119	YY	6	7	0	0	0	0	8	8
71-9	7	S	.0300	60	120	Y	11	0	0	0	0	0	11	1

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 32

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS	EARLY DEATHS		LATE DEATHS		CORPORAL LUTEA	
								L	R	L	R	L	R
71-9	7	S	.0500	61	121	Y	4	9	0	0	1	1	4
71-9	7	S	.0500	61	122	YY	4	7	0	0	0	0	4
71-9	7	S	.0500	62	123	YY	5	5	0	0	0	0	5
71-9	7	S	.0500	62	124	YY	5	5	0	0	0	0	5
71-9	7	S	.0500	63	125	YY	4	5	0	0	0	0	5
71-9	7	S	.0500	63	126	YY	7	6	0	0	0	0	7
71-9	7	S	.0500	64	127	YY	4	9	0	0	0	0	4
71-9	7	S	.0500	64	128	YY	6	7	0	0	0	0	7
71-9	7	S	.0500	65	129	YY	5	8	1	1	0	0	8
71-9	7	S	.0500	65	130	YY	8	7	0	0	0	0	12
71-9	7	S	.0500	66	131	YY	4	8	0	2	0	0	8
71-9	7	S	.0500	66	132	YY	5	7	1	1	0	0	7
71-9	7	S	.0500	67	133	YY	0	2	0	0	0	0	4
71-9	7	S	.0500	67	134	YY	0	5	0	0	0	0	5
71-9	7	S	.0500	68	135	YY	6	7	0	0	0	0	8
71-9	7	S	.0500	68	136	YY	3	8	0	0	0	0	7
71-9	7	S	.0500	69	137	YY	0	4	0	0	0	0	8
71-9	7	S	.0500	69	138	YY	4	8	0	0	0	0	4
71-9	7	S	.0500	70	139	YY	9	4	0	0	0	0	9
71-9	7	S	.0500	70	140	Y	6	5	0	0	0	0	6
71-9	7	S	.0700	71	141	Y	5	5	0	0	0	0	6
71-9	7	S	.0700	71	142	YY	5	7	0	3	0	0	6
71-9	7	S	.0700	72	143	YN	-0	-0	-0	-0	-0	-0	-0
71-9	7	S	.0700	72	144	YY	5	4	0	0	0	0	5
71-9	7	S	.0700	73	145	YY	4	9	0	0	0	0	9
71-9	7	S	.0700	73	146	YY	5	0	0	0	0	0	7
71-9	7	S	.0700	74	147	YY	6	9	1	0	0	0	6
71-9	7	S	.0700	74	148	YY	4	10	0	0	1	0	12
71-9	7	S	.0700	75	149	YY	6	9	0	0	0	0	6
71-9	7	S	.0700	75	150	YY	6	4	0	1	1	0	4
71-9	7	S	.0700	76	151	YY	7	4	0	1	1	0	7
71-9	7	S	.0700	76	152	YY	6	6	0	0	0	0	8
71-9	7	S	.0700	77	153	YY	4	3	0	0	0	0	4
71-9	7	S	.0700	77	154	YY	5	9	0	1	0	0	5
71-9	7	S	.0700	78	155	YY	7	2	1	1	0	0	7
71-9	7	S	.0700	78	156	YY	1	9	0	0	1	0	3
71-9	7	S	.0700	79	157	YY	5	5	0	0	0	0	1
71-9	7	S	.0700	79	158	YY	6	6	0	0	0	0	5
71-9	7	S	.0700	80	159	YY	6	6	1	1	1	1	6
71-9	7	S	.0700	80	160	Y	5	8	0	0	0	0	5

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 33

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS	EARLY DEATHS		LATE DEATHS		CORPORAL LUTEA	
								L	R	L	R		
TEM9	7	S	.0002	11	21	Y	6	7	0	0	0	0	6
TEM9	7	S	.0002	11	22	YY	8	5	0	0	0	0	8
TEM9	7	S	.0002	12	23	YY	5	9	0	0	0	1	5
TEM9	7	S	.0002	12	24	YY	6	6	0	0	0	1	6
TEM9	7	S	.0002	13	25	YY	5	9	0	0	3	0	5
TEM9	7	S	.0002	13	26	YY	3	8	0	0	1	0	3
TEM9	7	S	.0002	14	27	YY	6	6	0	0	0	0	6
TEM9	7	S	.0002	14	28	YY	6	8	0	0	1	0	6
TEM9	7	S	.0002	15	29	YY	8	6	1	0	0	0	8
TEM9	7	S	.0002	15	30	YY	8	8	0	0	1	0	8
TEM9	7	S	.0002	16	31	YY	6	4	0	0	0	0	4
TEM9	7	S	.0002	16	32	YY	5	7	1	1	0	0	5
TEM9	7	S	.0002	17	33	YY	4	2	0	0	0	0	7
TEM9	7	S	.0002	17	34	YY	4	8	0	0	0	0	4
TEM9	7	S	.0002	18	35	YY	6	6	0	0	0	0	7
TEM9	7	S	.0002	18	36	YY	3	7	0	0	0	0	4
TEM9	7	S	.0002	19	37	YY	6	8	0	0	0	0	6
TEM9	7	S	.0002	19	38	YY	6	6	0	0	0	0	6
TEM9	7	S	.0002	20	39	YY	8	5	0	0	0	0	8
TEM9	7	S	.0002	20	40	YY	8	8	0	0	0	0	8
CNTRL9	7	M	0.0000	1	1	Y	4	7	1	0	0	0	5
CNTRL9	7	M	0.0000	1	2	YY	3	6	0	0	0	0	6
CNTRL9	7	M	0.0000	2	3	YY	6	2	0	0	0	0	6
CNTRL9	7	M	0.0000	2	4	YY	3	7	0	0	0	0	3
CNTRL9	7	M	0.0000	3	5	YY	5	7	0	0	1	2	5
CNTRL9	7	M	0.0000	3	6	YY	4	7	0	0	1	0	4
CNTRL9	7	M	0.0000	4	7	YY	6	5	0	0	1	0	6
CNTRL9	7	M	0.0000	4	8	YY	2	8	1	0	0	1	2
CNTRL9	7	M	0.0000	5	9	YY	5	6	0	2	3	0	10
CNTRL9	7	M	0.0000	5	10	YY	7	5	0	0	0	0	7
CNTRL9	7	M	0.0000	6	11	YY	4	12	0	0	0	0	0
CNTRL9	7	M	0.0000	6	12	YY	4	9	0	0	1	0	0
CNTRL9	7	M	0.0000	7	13	YY	8	6	0	0	1	0	8
CNTRL9	7	M	0.0000	7	14	YY	5	8	0	0	0	0	5
CNTRL9	7	M	0.0000	8	15	YY	5	6	0	0	0	0	6
CNTRL9	7	M	0.0000	8	16	YY	4	3	0	0	0	0	5
CNTRL9	7	M	0.0000	9	17	YY	4	8	0	0	2	0	4
CNTRL9	7	M	0.0000	9	18	YY	4	8	0	0	0	1	5
CNTRL9	7	M	0.0000	10	19	YY	6	7	0	0	0	0	8
CNTRL9	7	M	0.0000	10	20	YY	4	5	0	0	0	0	4

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 34

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R
71-9	7	M	.0300	41	81	Y	4	4	0	0	0	0	4	5
71-9	7	M	.0300	41	82	Y	2	6	0	2	0	0	2	8
71-9	7	M	.0300	42	83	Y	9	5	0	0	0	0	10	6
71-9	7	M	.0300	42	84	Y	4	7	0	0	0	0	5	7
71-9	7	M	.0300	43	85	Y	4	6	0	1	0	0	4	6
71-9	7	M	.0300	43	86	Y	6	5	0	0	2	1	6	6
71-9	7	M	.0300	44	87	Y	5	6	0	0	0	1	5	6
71-9	7	M	.0300	44	88	Y	4	8	0	0	0	1	4	9
71-9	7	M	.0300	45	89	Y	4	6	0	0	0	0	4	6
71-9	7	M	.0300	45	90	Y	4	6	0	0	0	0	4	6
71-9	7	M	.0300	46	91	Y	6	10	1	0	0	0	9	10
71-9	7	M	.0300	46	92	Y	9	5	0	0	1	0	9	5
71-9	7	M	.0300	47	93	Y	8	4	0	0	1	0	10	4
71-9	7	M	.0300	47	94	Y	6	4	0	0	1	0	7	4
71-9	7	M	.0300	48	95	Y	5	6	1	0	0	0	5	6
71-9	7	M	.0300	48	96	Y	3	6	0	0	0	1	3	7
71-9	7	M	.0300	49	97	Y	4	5	0	0	0	1	5	5
71-9	7	M	.0300	49	98	Y	2	1	1	0	0	0	4	7
71-9	7	M	.0300	50	99	Y	7	4	0	1	0	0	7	4
71-9	7	M	.0300	50	100	Y	5	5	0	0	0	0	5	5
71-9	7	M	.0500	51	101	Y	8	5	0	0	0	1	8	5
71-9	7	M	.0500	51	102	Y	5	5	0	0	0	0	5	7
71-9	7	M	.0500	52	103	Y	2	9	0	0	0	0	3	9
71-9	7	M	.0500	52	104	Y	7	1	0	0	0	0	8	4
71-9	7	M	.0500	53	105	Y	1	5	0	0	0	0	5	6
71-9	7	M	.0500	53	106	Y	5	5	0	0	0	0	5	5
71-9	7	M	.0500	54	107	Y	2	9	1	0	0	0	2	12
71-9	7	M	.0500	54	108	Y	1	2	0	0	1	0	5	9
71-9	7	M	.0500	55	109	Y	5	8	0	0	2	3	5	8
71-9	7	M	.0500	55	110	Y	7	7	0	0	0	0	7	7
71-9	7	M	.0500	56	111	Y	6	7	0	1	0	0	6	7
71-9	7	M	.0500	56	112	Y	8	6	0	0	0	1	8	8
71-9	7	M	.0500	57	113	Y	5	9	0	0	0	0	5	9
71-9	7	M	.0500	57	114	Y	6	7	0	0	0	0	6	8
71-9	7	M	.0500	58	115	Y	5	7	0	1	0	0	5	7
71-9	7	M	.0500	58	116	Y	9	6	0	0	5	0	10	6
71-9	7	M	.0500	59	117	Y	5	6	0	0	0	0	5	6
71-9	7	M	.0500	59	118	Y	4	6	0	0	0	0	4	6
71-9	7	M	.0500	60	119	Y	7	6	0	0	0	0	7	6
71-9	7	M	.0500	60	120	Y	4	7	0	0	0	0	4	7

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 35

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R
71-9	7	M	.0700	61	121	Y	3	0	0	0	0	0	4	7
71-9	7	M	.0700	61	122	Y	7	4	0	0	1	0	8	4
71-9	7	M	.0700	62	123	Y	9	4	0	0	1	1	9	4
71-9	7	M	.0700	62	124	Y	7	8	0	0	0	0	7	8
71-9	7	M	.0700	63	125	Y	5	9	0	0	0	0	5	9
71-9	7	M	.0700	63	126	Y	3	7	0	0	1	3	4	8
71-9	7	M	.0700	64	127	Y	7	6	0	1	0	0	7	7
71-9	7	M	.0700	64	128	Y	4	8	0	0	0	0	4	10
71-9	7	M	.0700	65	129	Y	8	4	0	0	0	1	8	4
71-9	7	M	.0700	65	130	Y	4	3	0	0	0	1	6	7
71-9	7	M	.0700	66	131	Y	4	2	0	0	0	0	7	5
71-9	7	M	.0700	66	132	Y	6	8	0	0	0	0	7	8
71-9	7	M	.0700	67	133	Y	8	6	0	0	0	0	8	7
71-9	7	M	.0700	67	134	Y	5	8	0	0	0	0	6	8
71-9	7	M	.0700	68	135	Y	6	5	4	1	0	2	7	5
71-9	7	M	.0700	68	136	Y	6	6	0	0	3	1	6	6
71-9	7	M	.0700	69	137	Y	5	9	0	0	0	0	6	10
71-9	7	M	.0700	69	138	Y	5	7	0	0	0	0	6	10
71-9	7	M	.0700	70	139	Y	7	7	0	0	0	0	7	8
71-9	7	M	.0700	70	140	Y	4	3	1	0	0	0	6	7

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 36

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R
CNTRL9	8	S	0.0000	1	1	Y	8	4	0	0	0	0	8	5
CNTRL9	8	S	0.0000	1	2	YY	10	3	0	0	0	0	10	3
CNTRL9	8	S	0.0000	2	3	YY	5	7	0	0	0	0	5	8
CNTRL9	8	S	0.0000	2	4	YY	7	3	2	1	0	0	7	4
CNTRL9	8	S	0.0000	3	5	YY	7	8	0	0	1	0	7	8
CNTRL9	8	S	0.0000	3	6	YY	8	7	0	0	1	0	8	7
CNTRL9	8	S	0.0000	4	7	YY	5	5	0	0	0	0	5	5
CNTRL9	8	S	0.0000	4	8	YY	5	6	1	0	0	0	6	6
CNTRL9	8	S	0.0000	5	9	YY	3	3	0	0	1	0	9	5
CNTRL9	8	S	0.0000	5	10	YY	9	3	0	0	0	0	9	3
CNTRL9	8	S	0.0000	6	11	YY	2	7	0	0	0	0	2	8
CNTRL9	8	S	0.0000	6	12	YY	9	7	0	0	0	0	9	7
CNTAL9	8	S	0.0000	7	13	YY	11	2	0	0	0	0	11	2
CNTRL9	8	S	0.0000	7	14	YY	4	9	0	0	0	0	4	10
CNTRL9	8	S	0.0000	8	15	YY	7	6	0	0	0	0	7	6
CNTRL9	8	S	0.0000	8	16	YY	7	9	0	0	1	0	7	9
CNTRL9	8	S	0.0000	9	17	YY	3	8	0	0	0	0	4	8
CNTRL9	8	S	0.0000	9	18	YY	5	6	0	0	0	0	5	7
CNTRL9	8	S	0.0000	10	19	YY	6	5	0	0	1	0	6	6
CNTRL9	8	S	0.0000	10	20	Y	3	8	0	0	0	0	3	10
71-9	8	S	.0300	51	101	Y	0	3	0	0	0	0	4	3
71-9	8	S	.0300	51	102	YY	4	6	2	0	0	0	4	6
71-9	8	S	.0300	52	103	YY	7	6	0	0	0	0	7	6
71-9	8	S	.0300	52	104	YY	5	8	0	0	0	0	5	8
71-9	8	S	.0300	53	105	YY	4	8	0	0	0	0	4	8
71-9	8	S	.0300	53	106	YY	3	10	0	0	0	0	3	12
71-9	8	S	.0300	54	107	YY	4	4	0	0	0	0	7	5
71-9	8	S	.0300	54	108	YY	0	6	0	0	4	0	8	6
71-9	8	S	.0300	55	109	YY	4	6	0	0	0	0	4	6
71-9	8	S	.0300	55	110	YY	4	8	0	0	0	0	4	8
71-9	8	S	.0300	56	111	YY	7	5	0	0	0	0	7	5
71-9	8	S	.0300	56	112	YY	3	7	2	0	0	0	4	8
71-9	8	S	.0300	57	113	YY	8	3	0	0	0	0	8	3
71-9	8	S	.0300	57	114	YY	5	8	0	0	1	0	4	8
71-9	8	S	.0300	58	115	YY	4	8	0	0	0	0	6	7
71-9	8	S	.0300	58	116	YY	5	7	0	0	0	0	5	7
71-9	8	S	.0300	59	117	YY	1	3	0	0	2	1	3	7
71-9	8	S	.0300	59	118	YY	5	6	0	0	0	0	5	6
71-9	8	S	.0300	60	119	YY	5	6	0	0	0	0	6	7
71-9	8	S	.0300	60	120	Y	5	6	0	0	0	0	0	7

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 37

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS				EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R	L	R
71-9	8	S	.0500	61	121	Y	7	4	0	0	0	0	7	5		
71-9	8	S	.0500	61	122	Y	4	4	0	0	1	2	7	5		
71-9	8	S	.0500	62	123	Y	3	3	0	0	0	0	5	7		
71-9	8	S	.0500	62	124	Y	2	11	0	0	0	0	2	12		
71-9	8	S	.0500	63	125	Y	3	8	0	0	0	0	2	3	8	
71-9	8	S	.0500	63	126	Y	0	3	3	0	0	0	0	3	6	
71-9	8	S	.0500	64	127	Y	6	6	0	0	0	0	0	6	6	
71-9	8	S	.0500	64	128	Y	2	0	0	0	0	0	0	5	4	
71-9	8	S	.0500	65	129	Y	5	8	0	0	1	0	0	5	9	
71-9	8	S	.0500	65	130	Y	4	9	0	0	0	0	0	5	9	
71-9	8	S	.0500	66	131	Y	4	6	0	0	0	0	0	5	6	
71-9	8	S	.0500	66	132	Y	8	5	2	0	0	0	0	8	5	
71-9	8	S	.0500	67	133	Y	2	5	0	0	0	0	0	6	6	
71-9	8	S	.0500	67	134	Y	2	1	1	1	0	0	0	7	4	
71-9	8	S	.0500	68	135	Y	6	4	0	0	0	0	0	6	4	
71-9	8	S	.0500	68	136	Y	3	9	0	0	0	0	0	3	10	
71-9	8	S	.0500	69	137	Y	6	7	0	0	0	0	3	6	9	
71-9	8	S	.0500	69	138	Y	6	6	0	0	0	0	0	6	6	
71-9	8	S	.0500	70	139	Y	7	5	1	0	0	0	0	7	7	
71-9	8	S	.0500	70	140	Y	3	7	0	1	0	0	0	3	8	
71-9	8	S	.0700	71	141	Y	4	8	0	0	0	0	1	4	8	
71-9	8	S	.0700	71	142	Y	6	7	0	0	1	1	0	7	7	
71-9	8	S	.0700	72	143	Y	5	6	0	3	0	0	0	5	7	
71-9	8	S	.0700	72	144	Y	3	9	0	0	0	0	0	3	9	
71-9	8	S	.0700	73	145	Y	12	4	0	0	1	0	0	12	5	
71-9	8	S	.0700	73	146	Y	6	7	1	0	0	0	0	6	7	
71-9	8	S	.0700	74	147	Y	7	6	0	0	0	0	0	7	6	
71-9	8	S	.0700	74	148	Y	9	3	0	0	0	0	0	9	3	
71-9	8	S	.0700	75	149	Y	3	9	0	1	0	0	0	3	10	
71-9	8	S	.0700	75	150	Y	4	8	0	0	0	0	0	4	8	
71-9	8	S	.0700	76	151	Y	6	7	0	0	0	0	0	6	7	
71-9	8	S	.0700	76	152	Y	7	6	1	0	1	3	7	7		
71-9	8	S	.0700	77	153	Y	7	8	0	0	0	1	1	7	8	
71-9	8	S	.0700	77	154	Y	8	3	0	0	0	0	0	9	3	
71-9	8	S	.0700	78	155	Y	7	5	0	0	0	0	0	7	5	
71-9	8	S	.0700	78	156	Y	5	7	0	2	0	0	0	0	8	
71-9	8	S	.0700	79	157	Y	10	3	1	0	0	0	0	11	3	
71-9	8	S	.0700	79	158	Y	3	8	0	0	0	0	0	3	9	
71-9	8	S	.0700	80	159	Y	8	4	0	0	0	0	0	8	4	
71-9	8	S	.0700	80	160	Y	7	4	0	0	3	1	1	9	4	

DOMINANT LETHAL GENE STUDY OF COMPOUND 71-9

SODIUM NITRITE

PAGE 38

TEST MATERIAL	WEEK	S/M	DOSE	MALE NO.	FEMALE NO.	PREG.	IMPLANTS		EARLY DEATHS		LATE DEATHS		CORPORA LUTEA	
							L	R	L	R	L	R	L	R
TEM9	8	S	.0002	11	21	Y	6	9	0	0	0	0	6	12
TEM9	8	S	.0002	11	22	Y	7	5	0	0	0	0	7	5
TEM9	8	S	.0002	12	23	Y	8	4	0	0	0	0	8	4
TEM9	8	S	.0002	12	24	Y	7	6	0	1	0	0	7	6
TEM9	8	S	.0002	13	25	Y	7	5	0	2	3	1	9	7
TEM9	8	S	.0002	13	26	Y	7	5	0	0	0	0	8	5
TEM9	8	S	.0002	14	27	Y	8	9	1	0	0	1	8	9
TEM9	8	S	.0002	14	28	Y	5	6	0	0	0	0	6	6
TEM9	8	S	.0002	15	29	Y	7	5	0	0	0	0	9	5
TEM9	8	S	.0002	15	30	Y	6	6	0	0	1	0	6	6
TEM9	8	S	.0002	16	31	Y	8	5	0	0	0	0	8	5
TEM9	8	S	.0002	16	32	Y	0	1	0	0	0	0	7	5
TEM9	8	S	.0002	17	33	Y	4	8	0	0	0	0	5	9
TEM9	8	S	.0002	17	34	Y	9	3	0	0	0	0	12	4
TEM9	8	S	.0002	18	35	Y	8	5	0	0	0	0	9	6
TEM9	8	S	.0002	18	36	Y	11	3	0	0	0	0	11	3
TEM9	8	S	.0002	19	37	Y	4	8	0	0	0	0	4	9
TEM9	8	S	.0002	19	38	Y	7	6	0	0	1	0	7	6
TEM9	8	S	.0002	20	39	N	-0	-0	-0	-0	-0	-0	-0	-0
TEM9	8	S	.0002	20	40	Y	8	4	1	1	1	0	9	4

CHI-SQUARE TEST OF THE FERTILITY INDEX (1 DEGREE OF FREEDOM)

WEEK	VEHICLE CONTROL				71-9 .03 G/KG				71-9 .05 G/KG				71-9 .07 G/KG				TEM .2 MG/KG			
	N PRG	N MTD	FERT. INDEX	CHISQ	N PRG	N MTD	FERT. INDEX	CHISQ	N PRG	N MTD	FERT. INDEX	CHISQ	N PRG	N MTD	FERT. INDEX	CHISQ	N PRG	N MTD	FERT. INDEX	CHISQ
SINGLE TREATMENT																				
1	15	20	.75	0.00	19	20	.95	1.76	17	20	.85	.16	16	20	.80	0.00	20	20	1.00	3.66
2	20	20	1.00	0.00	20	20	1.00	0.00	20	20	1.00	0.00	18	20	.90	.53	20	20	1.00	0.00
3	20	20	1.00	0.00	20	20	1.00	0.00	19	20	.95	0.00	20	20	1.00	0.00	20	20	1.00	0.00
4	20	20	1.00	0.00	19	20	.95	0.00	16	20	.80	2.50	19	20	.95	0.00	20	20	1.00	0.00
5	19	20	.95	0.00	17	20	.85	.28	20	20	1.00	0.00	16	20	.80	.91	19	20	.95	.53
6	20	20	1.00	0.00	19	20	.95	0.00	17	20	.85	1.44	17	20	.85	1.44	20	20	1.00	0.00
7	20	20	1.00	0.00	20	20	1.00	0.00	20	20	1.00	0.00	19	20	.95	0.00	20	20	1.00	0.00
8	20	20	1.00	0.00	20	20	1.00	0.00	20	20	1.00	0.00	20	20	1.00	0.00	19	20	.95	0.00
MULTIPLE TREATMENT																				
1	15	20	.75	0.00	20	20	1.00	3.66	18	20	.90	.69	19	20	.95	1.76				
2	20	20	1.00	0.00	19	20	.95	0.00	20	20	1.00	0.00	20	20	1.00	0.00				
3	20	20	1.00	0.00	19	20	.95	0.00	18	20	.90	.53	20	20	1.00	0.00				
4	20	20	1.00	0.00	17	20	.85	1.44	14	20	.70	4.90	19	20	.95	0.00				
5	19	20	.95	0.00	20	20	1.00	0.00	16	20	.80	.91	20	20	1.00	0.00				
6	20	20	1.00	0.00	20	20	1.00	0.00	16	20	.80	2.50	19	20	.95	0.00				
7	20	20	1.00	0.00	20	20	1.00	0.00	20	20	1.00	0.00	20	20	1.00	0.00				

ARMITAGE TEST FOR A LINEAR TREND IN PROPORTIONS FOR THE FERTILITY INDEX
 (1 DEGREE OF FREEDOM) BASED ON THE DOSE LEVELS

WEEK	.03 G/KG		.05 G/KG		.07 G/KG		CHISQ (C-1)	CHISQ (1)	ARMTG CHISQ
	N	N	N	N	N	N			
	PRG	MTD	PRG	MTD	PRG	MTD			
SINGLE TREATMENT									
1	19	20	17	20	16	20	2.02	1.95	.07
2	20	20	20	20	18	20	4.14	3.10	1.03
3	20	20	19	20	20	20	2.03	0.00	2.03
4	19	20	16	20	19	20	3.33	0.00	3.33
5	17	20	20	20	16	20	4.20	.24	3.96
6	19	20	17	20	17	20	1.29	.97	.32
7	20	20	20	20	19	20	2.03	1.53	.51
8	20	20	20	20	20	20	0.00	0.00	0.00
MULTIPLE TREATMENT									
1	20	20	18	20	19	20	2.11	.53	1.58
2	19	20	20	20	20	20	2.03	1.53	.51
3	19	20	18	20	20	20	2.11	.53	1.58
4	17	20	14	20	19	20	4.56	.72	3.84
5	20	20	16	20	20	20	8.57	0.00	8.57
6	20	20	16	20	19	20	5.67	.33	5.35
7	20	20	20	20	20	20	0.00	0.00	0.00

ARMITAGE TEST FOR A LINEAR TREND IN PROPORTIONS FOR THE FERTILITY INDEX
 (1 DEGREE OF FREEDOM) BASED ON THE LOGARITHMS OF THE DOSE LEVELS

	.03 G/KG		.05 G/KG		.07 G/KG				
WEEK	N PRG	N MTD	N PRG	N MTD	N PRG	N MTD	CHISQ (C-1)	CHISQ (1)	ARMTG CHISQ
---	---	---	---	---	---	---	-----	-----	-----
SINGLE TREATMENT									
1	19	20	17	20	16	20	2.02	2.01	.01
2	20	20	20	20	18	20	4.14	2.65	1.48
3	20	20	19	20	20	20	2.03	.03	2.01
4	19	20	16	20	19	20	3.33	.05	3.29
5	17	20	20	20	16	20	4.20	.06	4.14
6	19	20	17	20	17	20	1.29	1.09	.20
7	20	20	20	20	19	20	2.03	1.30	.73
8	20	20	20	20	20	20	0.00	0.00	0.00
MULTIPLE TREATMENT									
1	20	20	18	20	19	20	2.11	.75	1.35
2	19	20	20	20	20	20	2.03	1.72	.32
3	19	20	18	20	20	20	2.11	.33	1.78
4	17	20	14	20	19	20	4.56	.37	4.19
5	20	20	16	20	20	20	8.57	.12	8.45
6	20	20	16	20	19	20	5.67	.71	4.97
7	20	20	20	20	20	20	0.00	0.00	0.00

ARMITAGE TEST FOR A LINEAR TREND IN PROPORTIONS FOR THE FERTILITY INDEX
(2 DEGREES OF FREEDOM) BASED ON THE DOSE LEVELS AND INCLUDING THE CONTROL GROUP

CONTROL			.03 G/KG		.05 G/KG		.07 G/KG				
WEEK	N PRG	N MTD	N PRG	N MTD	N PRG	N MTD	N PRG	N MTD	CHISQ (C-1)	CHISQ (1)	ARMTG CHISQ
SINGLE TREATMENT											
1	15	20	19	20	17	20	16	20	3.21	.10	3.11
2	20	20	20	20	20	20	18	20	6.15	3.24	2.91
3	20	20	20	20	19	20	20	20	3.04	.24	2.80
4	20	20	19	20	16	20	19	20	6.49	1.52	4.97
5	19	20	17	20	20	20	16	20	5.56	1.02	4.54
6	20	20	19	20	17	20	17	20	4.23	3.81	.42
7	20	20	20	20	20	20	19	20	3.04	1.60	1.44
8	20	20	20	20	20	20	20	20	0.00	0.00	0.00
MULTIPLE TREATMENT											
1	15	20	20	20	18	20	19	20	7.79	3.51	4.27
2	20	20	19	20	20	20	20	20	3.04	.09	2.95
3	20	20	19	20	18	20	20	20	3.81	.16	3.65
4	20	20	17	20	14	20	19	20	9.60	1.23	8.37
5	19	20	20	20	16	20	20	20	9.17	.05	9.12
6	20	20	20	20	16	20	19	20	9.17	2.17	7.00
7	20	20	20	20	20	20	20	20	0.00	0.00	0.00

T-TEST OF THE NUMBER OF IMPLANTATIONS IN PREGNANT FEMALES.

WEEK	CONTROL					71-9 .03 G/KG					71-9 .05 G/KG					71-9 .07 G/KG					TEM .2 MG/KG				
	N PRG	MEAN	STD DEV	N PRG	MEAN	STD DEV	DF	T	N PRG	MEAN	STD DEV	DF	T	N PRG	MEAN	STD DEV	DF	T	N PRG	MEAN	STD DEV	DF	T		
SINGLE TREATMENT																									
1	15	12.07	3.61	19	11.05	3.75	32	.795	17	10.65	3.53	30	1.122	16	13.13	1.50	29	1.077	20	12.05	1.90	33	.018		
2	20	11.30	3.53	20	12.65	2.70	38	1.359	20	11.40	2.96	38	.097	18	12.78	1.52	36	1.645	20	6.95	3.00	38	4.202		
3	20	12.25	1.86	20	11.45	2.11	38	1.270	19	12.00	2.40	37	.364	20	11.80	3.04	38	.565	20	8.35	3.33	38	4.574		
4	20	12.80	2.09	19	11.58	2.50	37	1.657	16	13.00	1.37	34	.330	19	10.79	3.58	37	2.153	20	6.55	2.61	38	8.365		
5	19	11.74	1.73	17	11.71	3.41	34	.035	20	11.60	1.67	37	.252	16	10.56	3.48	33	1.295	19	9.84	2.65	36	2.610		
6	20	11.85	2.54	19	10.58	4.07	37	1.176	17	11.29	2.95	35	.616	17	12.82	1.38	35	1.411	20	11.45	1.05	38	.651		
7	20	11.25	2.10	20	10.95	2.50	38	.411	20	11.65	2.62	38	.533	19	11.32	2.71	37	.085	20	12.50	2.24	38	1.823		
8	20	12.00	2.43	20	10.35	2.92	38	1.941	20	9.70	3.64	38	2.349	20	12.45	1.28	38	.734	19	12.11	3.02	37	.120		
MULTIPLE TREATMENT																									
1	15	12.07	3.61	20	12.35	2.11	33	.291	18	11.44	2.96	31	.544	19	11.89	2.96	32	.153							
2	20	11.30	3.53	19	11.11	3.57	37	.171	20	12.50	2.82	38	1.189	20	12.15	2.66	38	.861							
3	20	12.25	1.86	19	11.05	3.21	37	1.436	18	12.06	2.58	36	.269	20	12.70	1.63	38	.815							
4	20	12.80	2.09	17	10.82	4.45	35	1.773	14	11.21	1.48	32	2.437	19	10.42	2.32	37	3.368							
5	19	11.74	1.73	20	10.30	4.34	37	1.344	16	11.75	1.44	33	.024	20	12.40	1.98	37	1.111							
6	20	11.85	2.54	20	12.20	2.31	38	.450	16	12.19	3.04	34	.363	19	11.42	3.25	37	.460							
7	20	11.25	2.10	20	10.50	2.67	38	.989	20	11.25	2.94	38	0.000	20	11.35	3.22	38	.116							

REGRESSION FITS OF THE NUMBER, U, OF IMPLANTATIONS ON 1) DOSE, AND 2) LOG DOSE,
(PREDICTED U = A + B*x) CONTROL GROUP EXCLUDED

WEEK	X	N	XHAR	SD X	UBAR	SU U	B	A	TB	DF	VARU,X	CV U	VARB	VARA	VARU,BAR
SINGLE TREATMENT															
1	DOSE	52	.05	.02	11.56	3.27	49.779	9.126	1.639 50	10.2061	.2764	732.6329	1.9443	.1963	
	LOG DOSE	52	-3.08	.35	11.56	3.27	2.081	17.965	1.638 50	10.3413	.2782	1.6133	15.4918	.1989	
2	DOSE	58	.05	.02	12.26	2.54	2.000	12.160	.096 56	6.5546	.2088	432.0106	1.1634	.1130	
	LOG DOSE	58	-3.07	.35	12.26	2.54	-.123	11.882	-.126 56	6.5539	.2088	.9419	8.9753	.1130	
3	DOSE	59	.05	.02	11.75	2.52	8.750	11.308	.437 57	6.4204	.2157	401.2735	1.1120	.1088	
	LOG DOSE	59	-3.05	.35	11.75	2.52	.465	13.167	.496 57	6.4142	.2156	.8814	8.3343	.1087	
4	DOSE	54	.05	.02	11.72	2.80	-19.737	12.709	-.668 52	7.8637	.2392	517.3485	1.4390	.1456	
	LOG DOSE	54	-3.06	.36	11.72	2.80	-.662	9.698	-.618 52	7.9193	.2401	1.1468	10.8641	.1467	
5	DOSE	53	.05	.02	11.32	2.89	-28.318	12.726	-.129 51	8.2935	.2544	628.6541	1.7045	.1565	
	LOG DOSE	53	-3.06	.34	11.32	2.89	-.1229	7.562	-.1047 51	8.3219	.2548	1.3774	13.0373	.1570	
6	DOSE	53	.05	.02	11.53	3.15	55.751	8.783	2.200 51	9.2263	.2635	642.0644	1.7312	.1741	
	LOG DOSE	53	-3.07	.36	11.53	3.15	2.525	19.283	2.127 51	9.2791	.2642	1.4096	13.4684	.1751	
7	DOSE	59	.05	.02	11.31	2.58	9.370	10.840	.450 57	6.7568	.2299	433.3187	1.1832	.1145	
	LOG DOSE	59	-3.06	.35	11.31	2.58	.519	12.893	.533 57	6.7472	.2298	.9474	8.9882	.1144	
8	DOSE	60	.05	.02	10.83	2.99	52.500	8.208	2.298 58	8.3489	.2667	521.8032	1.4437	.1391	
	LOG DOSE	60	-3.05	.35	10.83	2.99	2.173	17.468	2.009 58	8.5167	.2694	1.1698	11.0515	.1419	
MULTIPLE TREATMENTS															
1	DOSE	57	.05	.02	11.91	2.67	-11.656	12.491	-.542 55	7.2081	.2254	462.2625	1.2660	.1265	
	LOG DOSE	57	-3.06	.36	11.91	2.67	-.644	9.939	-.641 55	7.1929	.2251	1.0112	9.6118	.1262	
2	DOSE	59	.05	.02	11.93	3.04	25.739	10.637	1.059 57	9.2175	.2544	591.1231	1.6541	.1562	
	LOG DOSE	59	-3.05	.35	11.93	3.04	1.342	16.021	1.178 57	9.1753	.2539	1.2974	12.1943	.1555	
3	DOSE	57	.05	.02	11.95	2.59	41.112	9.877	2.039 55	6.3361	.2107	406.3453	1.1413	.1112	
	LOG DOSE	57	-3.05	.36	11.95	2.59	1.946	17.877	2.056 55	6.3290	.2106	.8956	8.4311	.1110	
4	DOSE	50	.05	.02	10.78	3.02	-10.523	11.315	-.414 48	9.2706	.2824	645.2256	1.8505	.1854	
	LOG DOSE	50	-3.04	.36	10.78	3.02	-.412	9.526	-.345 48	9.2808	.2826	1.4318	13.4309	.1856	
5	DOSE	56	.05	.02	11.46	3.04	52.500	8.839	2.261 54	8.6265	.2562	539.1534	1.5019	.1540	
	LOG DOSE	56	-3.06	.36	11.46	3.04	2.504	19.121	2.301 54	8.5997	.2558	1.1836	11.2214	.1536	
6	DOSE	55	.05	.02	11.93	2.85	-19.333	12.887	-.846 53	8.1487	.2393	522.5962	1.4357	.1482	
	LOG DOSE	55	-3.07	.36	11.93	2.85	-.848	9.329	-.791 53	8.1623	.2395	1.1490	10.9438	.1484	
7	DOSE	60	.05	.02	11.03	2.42	21.250	9.971	.919 58	8.5639	.2652	535.2460	1.4808	.1427	
	LOG DOSE	60	-3.05	.35	11.03	2.42	1.041	14.213	.961 58	8.5524	.2651	1.1747	11.0979	.1425	

REGRESSION FITS OF THE NUMBER, U, OF IMPLANTATIONS ON DOSE.
(PREDICTED U = A + B*x) CONTROL GROUP INCLUDED

WEEK	X	N	XBAR	SD X	UBAR	SD U	B	A	TB	DF	VARU,X	CV U	VARB	VARA	VARU,BAR
SINGLE TREATMENT															
1	DOSE	67	.04	.03	11.67	3.33	9.697	11.304	.592	65	11.1025	.2065	268.1174	.5522	.1669
2	DOSE	78	.04	.03	12.01	2.83	14.286	11.489	1.146	76	7.9804	.2352	155.4625	.3113	.1023
3	DOSE	79	.04	.03	11.87	2.37	-4.435	12.039	-.431	77	5.6582	.2003	106.0753	.2195	.0716
4	DOSE	74	.04	.03	12.01	2.66	-21.021	12.780	-1.828	72	6.8354	.2176	132.2471	.2684	.0924
5	DOSE	72	.04	.03	11.43	2.63	-13.906	11.939	-1.158	70	6.8635	.2292	144.0936	.2876	.0953
6	DOSE	73	.04	.03	11.62	2.98	11.518	11.205	.859	71	8.9110	.2570	179.7172	.3518	.1221
7	DOSE	79	.04	.03	11.29	2.46	3.566	11.159	.331	77	6.0992	.2187	116.3292	.2372	.0772
8	DOSE	80	.04	.03	11.12	2.89	-.654	11.150	-.052	78	8.4709	.2616	158.3338	.3285	.1059
MULTIPLE TREATMENTS															
1	DOSE	72	.04	.03	11.94	2.86	-6.080	12.183	-.447	70	8.2874	.2410	184.7179	.4005	.1151
2	DOSE	79	.04	.03	11.77	3.16	16.405	11.155	1.204	77	9.9158	.2675	185.5396	.3878	.1255
3	DOSE	77	.04	.03	12.03	2.41	7.820	11.735	.745	75	5.8493	.2011	110.1002	.2289	.0760
4	DOSE	70	.04	.03	11.36	2.92	-31.564	12.502	-2.542	68	7.8975	.2474	154.1444	.3158	.1128
5	DOSE	75	.04	.03	11.53	2.70	12.565	11.064	1.032	73	7.6239	.2394	148.1319	.3081	.1017
6	DOSE	75	.04	.03	11.91	2.75	-.4740	12.079	-.390	73	7.6601	.2324	148.0834	.2983	.1021
7	DOSE	80	.04	.03	11.09	2.73	3.318	10.963	.280	78	7.5359	.2476	140.8576	.2923	.0942

CHI-SQUARE TEST OF THE DEATH INDEX (1 DEGREE OF FREEDOM)

WEEK	VEHICLE CONTROL				71-9 .03 G/KG				71-9 .05 G/KG				71-9 .07 G/KG				TEM .2 MG/KG			
	N WDI	N PRG	DEATH INDEX	CHISQ	N WDI	N PRG	DEATH INDEX	CHISQ	N WDI	N PRG	DEATH INDEX	CHISQ	N WDI	N PRG	DEATH INDEX	CHISQ	N WDI	N PRG	DEATH INDEX	CHISQ
SINGLE TREATMENT																				
1	6	15	.40	0.00	8	19	.42	.05	7	17	.41	.09	7	16	.44	.02	19	20	.95	10.15
2	7	20	.35	0.00	12	20	.60	1.60	10	20	.50	.41	7	18	.39	.01	17	20	.85	8.44
3	14	20	.70	0.00	10	20	.50	.94	11	19	.58	.21	11	20	.55	.43	19	20	.95	2.77
4	9	20	.45	0.00	9	19	.47	.03	7	16	.44	.07	8	19	.42	.02	19	20	.95	9.64
5	7	19	.37	0.00	7	17	.41	.01	9	20	.45	.04	4	16	.25	.15	16	19	.84	7.05
6	6	20	.30	0.00	9	19	.47	.62	10	17	.59	2.05	3	17	.18	.24	10	20	.50	.94
7	12	20	.60	0.00	10	20	.50	.10	4	20	.20	5.10	10	19	.53	.02	8	20	.40	.90
8	9	20	.45	0.00	6	20	.30	.43	10	20	.50	0.00	11	20	.55	.10	6	19	.32	.28
MULTIPLE TREATMENT																				
1	6	15	.40	0.00	4	20	.30	.07	4	18	.22	.53	9	19	.47	.01				
2	7	20	.35	0.00	10	19	.53	.62	11	20	.55	.91	14	20	.70	3.61				
3	14	20	.70	0.00	2	19	.11	11.89	9	18	.50	.86	7	20	.35	3.61				
4	9	20	.45	0.00	5	17	.29	.40	4	14	.29	.37	4	19	.21	1.55				
5	7	19	.37	0.00	6	20	.30	.01	9	16	.56	.65	6	20	.30	.01				
6	6	20	.30	0.00	10	20	.50	.94	6	16	.38	.01	8	19	.42	.21				
7	12	20	.60	0.00	14	20	.70	.11	8	20	.40	.90	9	20	.45	.40				

ARMITAGE TEST FOR A LINEAR TREND IN PROPORTIONS FOR THE DEATH INDEX
(1 DEGREE OF FREEDOM) BASED ON THE DOSE LEVELS

	.03 G/KG		.05 G/KG		.07 G/KG		CHISQ (C-1)	CHISQ (1)	ARMTG CHISQ
WEEK	N WDI	N PRG	N WDI	N PRG	N WDI	N PRG			
SINGLE TREATMENT									
1	8	19	7	17	7	16	.02	.01	.01
2	12	20	10	20	7	18	1.69	1.69	.00
3	10	20	11	19	11	20	.25	.10	.15
4	9	19	7	16	8	19	.11	.11	.00
5	7	17	9	20	4	16	1.64	.89	.75
6	9	19	15	17	3	17	6.35	3.06	3.29
7	10	20	4	20	10	19	5.39	.02	5.37
8	6	20	10	20	11	20	2.83	2.53	.30

	MULTIPLE TREATMENT	
1	6	20
2	10	19
3	2	19
4	5	17
5	6	20
6	10	20
7	14	20
	4	18
	11	20
	9	18
	4	14
	9	16
	6	16
	8	20
	9	20
	4	14
	2	20
	5	17
	6	20
	10	20
	14	20

9	19	2.78	1.28	1.50
14	20	1.45	1.23	.22
7	20	6.83	2.61	4.23
4	19	.39	.33	.06
6	20	3.36	.00	3.36
8	19	.59	.26	.34
9	20	4.14	2.50	1.64

ARMITAGE TEST FOR A LINEAR TREND IN PROPORTIONS FOR THE DEATH INDEX
 (1 DEGREE OF FREEDOM) BASED ON THE LOGARITHMS OF THE DOSE LEVELS

WEEK	.03 G/KG		.05 G/KG		.07 G/KG		CHISQ (C-1)	CHISQ (1)	ARMTG CHISQ
	N	N	N	N	N	N			
	WDI	PRG	WDI	PRG	WDI	PRG			
SINGLE TREATMENT									
1	8	19	7	17	7	16	.02	.01	.02
2	12	20	10	20	7	18	1.69	1.65	.04
3	10	20	11	19	11	20	.25	.13	.12
4	9	19	7	16	8	19	.11	.11	.00
5	7	17	9	20	4	16	1.64	.68	.96
6	9	19	10	17	3	17	6.35	2.34	4.02
7	10	20	4	20	10	19	5.39	.02	5.37
8	6	20	10	20	11	20	2.83	2.70	.13
MULTIPLE TREATMENT									
1	6	20	4	18	9	19	2.78	.97	1.81
2	10	19	11	20	14	20	1.45	1.10	.36
3	2	19	9	18	7	20	6.83	3.39	3.45
4	5	17	4	14	4	19	.39	.30	.09
5	6	20	9	16	6	20	3.36	.04	3.32
6	10	20	6	16	8	19	.59	.32	.27
7	14	20	8	20	9	20	4.14	2.96	1.17

ARMITAGE TEST FOR A LINEAR TREND IN PROPORTIONS FOR THE DEATH INDEX
 (2 DEGREES OF FREEDOM) BASED ON THE DOSE LEVELS AND INCLUDING THE CONTROL GROUP

WEEK	CONTROL		.03 G/KG		.05 G/KG		.07 G/KG		CHISQ (C-1)	CHISQ (1)	ARMTG CHISQ
	N	N	N	N	WDI	PRG	N	N	WDI	PRG	
	WDI	PRG	WDI	PRG	WDI	PRG	N	N	WDI	PRG	
SINGLE TREATMENT											
1	6	15	8	19	7	17	7	16	.05	.03	.01
2	7	20	12	20	10	20	7	18	3.05	.07	2.97
3	14	20	10	20	11	19	11	20	1.78	.74	1.05
4	9	20	9	19	7	16	8	19	.11	.05	.07
5	7	19	7	17	9	20	4	16	1.65	.19	1.46
6	6	20	9	19	10	17	3	17	7.34	.04	7.30
7	12	20	10	20	4	20	10	19	7.49	1.41	6.09
8	9	20	6	20	10	20	11	20	2.83	.76	2.07
MULTIPLE TREATMENT											
1	6	15	6	20	4	18	9	19	2.96	.07	2.89
2	7	20	10	19	11	20	14	20	4.96	4.73	.22
3	14	20	2	19	9	18	7	20	15.09	2.88	12.20
4	9	20	5	17	4	14	4	19	2.74	2.56	.18
5	7	19	6	20	9	16	6	20	3.37	.00	3.37
6	6	20	10	20	6	16	8	19	1.74	.37	1.37
7	12	20	14	20	8	20	9	20	4.58	1.99	2.59

PROBIT ANALYSIS OF THE PROPORTION OF PREGNANT FEMALES WITH 1 OR MORE DEAD IMPLANTS
PROBIT = A + B(LOG DOSE)

WEEK	H	A	CHISQ	DF
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SINGLE TREATMENT

1	.089	4.925	.02	1
2	-1.422	3.106	.04	1
3	.386	5.619	.12	1
4	-.366	4.375	.00	1
5	-.999	3.358	1.01	1
6	-1.786	2.394	4.36	1
7	-.154	4.559	5.38	1
8	1.806	7.264	.15	1

MULTIPLE TREATMENT

1	1.101	6.028	1.73	1
2	1.156	6.768	.38	1
3	2.285	7.511	3.91	1
4	-.671	3.467	.10	1
5	.222	4.977	3.31	1
6	-.615	4.021	.27	1
7	-1.886	2.545	1.22	1

T-TEST OF THE (TRANSFORMED) NUMBER OF DEAD IMPLANTS.
 (DEAD IMPLANTS TAKEN AS A SUBSET OF THE SET OF IMPLANTS)

WEEK	CONTROL	71-9 .03 G/KG						71-9 .05 G/KG						71-9 .07 G/KG						TEM .2 MG/KG			
		N	PRG	MEAN	STD			N	PRG	MEAN	STD			N	PRG	MEAN	STD	DF	T	DF	T	DF	T
SINGLE TREATMENT																							
1	15	.51	.28	.19	.62	.55	.32	.764	17	.65	.58	.30	.871	16	.50	.29	.29	.045	20	1.35	.54	.33	5.561
2	20	.56	.48	.20	.62	.33	.38	.403	20	.63	.50	.38	.409	18	.51	.34	.36	.371	20	2.11	.83	.38	7.175
3	20	.61	.25	.20	.63	.47	.38	.161	19	.60	.29	.37	.163	20	.67	.41	.38	.501	20	2.38	.55	.38	13.017
4	20	.57	.40	.19	.70	.65	.37	.772	16	.48	.25	.34	.803	19	.55	.29	.37	.159	20	2.40	.67	.38	10.472
5	19	.46	.24	.17	.59	.53	.34	.923	20	.49	.24	.37	.358	16	.46	.34	.33	.021	19	1.09	.65	.36	3.981
6	20	.48	.35	.19	.73	.68	.37	1.441	17	.57	.22	.35	.830	17	.34	.15	.35	1.578	20	.51	.23	.38	.316
7	20	.67	.40	.20	.63	.49	.38	.324	20	.42	.25	.38	2.382	19	.65	.38	.37	.194	20	.46	.24	.38	2.001
8	20	.51	.31	.20	.54	.42	.38	.266	20	.77	.62	.38	1.716	20	.60	.36	.38	.872	19	.50	.36	.37	.070
MULTIPLE TREATMENT																							
1	15	.51	.28	.20	.43	.24	.33	.896	18	.46	.33	.31	.448	19	.62	.51	.32	.805					
2	20	.56	.48	.19	.61	.49	.37	.302	20	.68	.43	.38	.792	20	.73	.41	.38	1.157					
3	20	.61	.25	.19	.43	.49	.37	1.471	18	.55	.31	.36	.731	20	.50	.35	.38	1.195					
4	20	.57	.40	.17	.51	.30	.35	.534	14	.41	.19	.32	1.434	19	.42	.23	.37	1.486					
5	19	.46	.24	.20	.48	.23	.37	.287	16	.57	.29	.33	1.236	20	.42	.23	.37	.530					
6	20	.48	.35	.20	.58	.33	.38	.858	16	.56	.43	.34	.596	19	.63	.61	.37	.936					
7	20	.67	.40	.20	.66	.30	.38	.126	20	.54	.37	.38	1.066	20	.62	.45	.38	.365					

CONTROL GROUP ANOVA FOR THE NUMBER OF PREGNANT FEMALES

WEEK	BETWEEN MALES			WITHIN MALES			TOTAL			F
	SUMSQ	DF	MEANSQ	SUMSQ	DF	MEANSQ	SUMSQ	DF		
SINGLE TREATMENT										
1	1.250	9	.139	2.500	10	.250	3.750	19		.556
2	0.000	9	0.000	0.000	10	0.000	0.000	19		I
3	0.000	9	0.000	0.000	10	0.000	0.000	19		I
4	0.000	9	0.000	0.000	10	0.000	0.000	19		I
5	.450	9	.050	.500	10	.050	.950	19		1.000
6	0.000	9	0.000	0.000	10	0.000	0.000	19		I
7	0.000	9	0.000	0.000	10	0.000	0.000	19		I
8	0.000	9	0.000	0.000	10	0.000	0.000	19		I
MULTIPLE TREATMENT										
1	1.250	9	.139	2.500	10	.250	3.750	19		.556
2	0.000	9	0.000	0.000	10	0.000	0.000	19		I
3	0.000	9	0.000	0.000	10	0.000	0.000	19		I
4	0.000	9	0.000	0.000	10	0.000	0.000	19		I
5	.450	9	.050	.500	10	.050	.950	19		1.000
6	0.000	9	0.000	0.000	10	0.000	0.000	19		I
7	0.000	9	0.000	0.000	10	0.000	0.000	19		I

CONTROL GROUP ANOVA FOR THE NUMBER OF IMPLANTATIONS PER PREGNANT FEMALE

WEEK	BETWEEN MALES			WITHIN MALES			TOTAL			F
	SUMSQ	DF	MEANSQ	SUMSQ	DF	MEANSQ	SUMSQ	DF		
SINGLE TREATMENT										
1	150.000	9	16.667	34.000	5	6.800	184.000	14		2.451
2	91.200	9	10.133	145.000	10	14.500	236.200	19		.699
3	27.250	9	3.028	38.500	10	3.850	65.750	19		.786
4	44.200	9	4.911	39.000	10	3.900	83.200	19		1.259
5	33.328	9	3.703	20.500	9	2.278	53.828	18		1.626
6	33.050	9	3.672	89.500	10	8.950	122.550	19		.410
7	57.250	9	6.361	26.500	10	2.650	83.750	19		2.400
8	62.000	9	6.889	50.000	10	5.000	112.000	19		1.378
MULTIPLE TREATMENT										
1	150.000	9	16.667	34.000	5	6.800	184.000	14		2.451
2	91.200	9	10.133	145.000	10	14.500	236.200	19		.699
3	27.250	9	3.028	38.500	10	3.850	65.750	19		.786
4	44.200	9	4.911	39.000	10	3.900	83.200	19		1.259
5	33.328	9	3.703	20.500	9	2.278	53.828	18		1.626
6	33.050	9	3.672	89.500	10	8.950	122.550	19		.410
7	57.250	9	6.361	26.500	10	2.650	83.750	19		2.400

CONTROL GROUP ANOVA FOR THE PRE-IMPLANTATION LOSS PER PREGNANT FEMALE

WEEK	BETWEEN MALES			WITHIN MALES			TOTAL			F
	SUMSQ	DF	MEANSQ	SUMSQ	DF	MEANSQ	SUMSQ	DF		
SINGLE TREATMENT										
1	120.837	9	13.426	38.500	5	7.700	159.337	14		1.744
2	68.200	9	7.578	83.000	10	8.300	151.200	19		.913
3	12.051	9	1.339	14.500	10	1.450	26.550	19		.923
4	23.050	9	2.561	45.500	10	4.550	68.550	19		.563
5	35.687	9	3.965	68.500	9	7.611	104.187	18		.521
6	40.450	9	4.494	46.500	10	4.650	86.950	19		.967
7	30.050	9	3.339	48.500	10	4.850	78.550	19		.688
8	24.450	9	2.717	34.500	10	3.450	58.950	19		.787
MULTIPLE TREATMENT										
1	120.837	9	13.426	38.500	5	7.700	159.337	14		1.744
2	68.200	9	7.578	63.000	10	8.300	151.200	19		.913
3	12.050	9	1.339	14.500	10	1.450	26.550	19		.923
4	23.050	9	2.561	45.500	10	4.550	68.550	19		.563
5	35.687	9	3.965	68.500	9	7.611	104.187	18		.521
6	40.450	9	4.494	46.500	10	4.650	86.950	19		.967
7	30.050	9	3.339	48.500	10	4.850	78.550	19		.688

CONTROL GROUP ANOVA FOR THE NUMBER OF DEAD IMPLANTS PER PREGNANT FEMALE

WEEK	BETWEEN MALES			WITHIN MALES			TOTAL			F
	SUMSQ	DF	MEANSQ	SUMSQ	DF	MEANSQ	SUMSQ	DF	---	
SINGLE TREATMENT										
1	6.137	9	.682	5.500	5	1.100	11.637	14		.620
2	21.250	9	2.361	20.500	10	2.050	41.750	19		1.152
3	7.450	9	.828	5.500	10	.550	12.950	19		1.505
4	18.450	9	2.050	28.500	10	2.850	46.950	19		.719
5	3.248	9	.361	5.500	9	.611	8.748	18		.590
6	27.050	9	3.006	5.500	10	.550	32.550	19		5.465
7	34.250	9	3.806	21.500	10	2.150	55.750	19		1.770
8	3.800	9	.422	9.000	10	.900	12.800	19		.469
MULTIPLE TREATMENT										
1	6.137	9	.682	5.500	5	1.100	11.637	14		.620
2	21.250	9	2.361	20.500	10	2.050	41.750	19		1.152
3	7.450	9	.828	5.500	10	.550	12.950	19		1.505
4	18.450	9	2.050	28.500	10	2.850	46.950	19		.719
5	3.248	9	.361	5.500	9	.611	8.748	18		.590
6	27.050	9	3.006	5.500	10	.550	32.550	19		5.465
7	34.250	9	3.806	21.500	10	2.150	55.750	19		1.770

CONTROL GROUP ANOVA FOR THE RATIO OF DEAD IMPLANTS TO TOTAL IMPLANTS PER PREGNANT FEMALE

WEEK	BETWEEN MALES			WITHIN MALES			TOTAL			F
	SUMSQ	DF	MEANSQ	SUMSQ	DF	MEANSQ	SUMSQ	DF		
SINGLE TREATMENT										
1	.041	9	.005	.026	5	.005	.067	14	.878	
2	.337	9	.037	.392	10	.039	.729	19	.956	
3	.053	9	.006	.041	10	.004	.094	19	1.439	
4	.134	9	.015	.212	10	.021	.345	19	.701	
5	.021	9	.002	.038	9	.004	.060	18	.556	
6	.220	9	.024	.033	10	.003	.252	19	7.501	
7	.267	9	.030	.177	10	.018	.443	19	1.678	
8	.058	9	.006	.117	10	.012	.175	19	.551	
MULTIPLE TREATMENT										
1	.041	9	.005	.026	5	.005	.067	14	.878	
2	.337	9	.037	.392	10	.039	.729	19	.956	
3	.053	9	.006	.041	10	.004	.094	19	1.439	
4	.134	9	.015	.212	10	.021	.345	19	.701	
5	.021	9	.002	.038	9	.004	.060	18	.556	
6	.220	9	.024	.033	10	.003	.252	19	7.501	
7	.267	9	.030	.177	10	.018	.443	19	1.678	

T-TEST OF THE NUMBER OF CORPORA LUTEA IN PREGNANT FEMALES.

WEEK	CONTROL					71-9 .03 G/KG					71-9 .05 G/KG					71-9 .07 G/KG					TEM .2 MG/KG				
	N PRG	MEAN	STD DEV	N PRG	MEAN	STD DEV	DF	T	N PRG	MEAN	STD DEV	DF	T	N PRG	MEAN	STD DEV	DF	T	N PRG	MEAN	STD DEV	DF	T		
SINGLE TREATMENT																									
1	15	13.87	1.30	19	13.37	1.34	32	1.089	17	12.59	1.28	30	2.800	16	13.44	1.63	29	.806	20	13.50	1.40	33	.791		
2	20	13.10	2.13	20	14.15	2.01	38	1.606	20	12.50	1.43	38	1.047	18	13.44	1.34	36	.590	20	11.90	1.52	38	2.055		
3	20	13.60	1.43	20	12.65	1.23	38	2.257	19	13.11	1.52	37	1.046	20	13.05	1.67	38	1.119	20	13.00	1.62	38	1.241		
4	20	13.95	1.67	19	12.84	1.17	37	2.390	16	14.19	1.52	34	.442	19	12.89	1.52	37	2.059	20	13.40	2.56	38	.804		
5	19	13.05	2.82	17	12.94	3.11	34	.113	20	12.35	1.39	37	.996	16	12.75	1.73	33	.374	19	12.05	2.25	36	1.209		
6	20	12.90	1.77	19	13.11	1.59	37	.379	17	13.00	1.97	35	.162	17	14.29	2.02	35	2.233	20	12.25	1.29	38	1.324		
7	20	12.90	1.83	20	12.65	1.73	38	.444	20	13.40	2.19	38	.784	19	12.47	2.01	37	.693	20	13.45	1.39	38	1.068		
8	20	12.95	1.70	20	11.90	1.77	38	1.911	20	12.05	1.67	38	1.689	20	13.00	1.30	38	.105	19	13.79	1.81	37	1.492		
MULTIPLE TREATMENT																									
1	15	13.87	1.30	20	13.45	1.36	33	.915	18	13.00	1.57	31	1.702	19	13.16	1.80	32	1.280							
2	20	13.10	2.13	19	13.32	1.70	37	.349	20	13.20	2.04	38	.152	20	13.45	2.31	38	.499							
3	20	13.60	1.43	19	13.05	1.27	37	1.263	18	13.39	1.85	36	.396	20	13.70	1.63	38	.207							
4	20	13.95	1.67	17	13.24	1.92	35	1.211	14	11.64	1.28	32	4.349	19	11.63	1.97	37	4.461							
5	19	13.05	2.82	20	13.15	1.81	37	.129	16	12.50	1.32	33	.720	20	13.45	1.70	37	.536							
6	20	12.90	1.77	20	13.90	2.25	38	1.563	16	14.12	1.50	34	2.202	19	12.79	1.96	37	.185							
7	20	12.90	1.83	20	11.70	2.45	38	1.753	20	12.75	1.71	38	.267	20	13.50	1.50	38	1.132							